

AMENDMENTS TO THE CLAIMS:

The following Listing of Claims replaces all prior versions, and listings, of claims.

LISTING OF CLAIMS

Claims 1-74 (Cancelled)

Claim [73] 75 (Currently Amended) A compound which comprises a therapeutic polypeptide linked to an albumin binding residue via a hydrophilic spacer.

Claim [74] 76 (Currently Amended) A compound which comprises a therapeutic polypeptide linked to an albumin binding residue via a hydrophilic spacer $-(CH_2)_lD[(CH_2)_nE]_m(CH_2)_pQ_q-$, wherein l, m and n independently are 1-20 and p is 0-10,
Q is $-Z-(CH_2)_lD[(CH_2)_nG]_m(CH_2)_p-$,
q is an integer in the range from 0 to 5,
each D, E, and G independently are selected from $-O-$, $-NR^3-$, $-N(COR^4)-$, $-PR^5(O)-$, and $-P(OR^6)(O)-$, wherein R^3 , R^4 , R^5 , and R^6 independently represent hydrogen or C_{1-6} -alkyl,
Z is selected from $-C(O)NH-$, $-C(O)NHCH_2-$, $-OC(O)NH-$, $-C(O)NHCH_2CH_2-$, $-C(O)CH_2-$, $-C(O)CH=CH-$, $-(CH_2)_s-$, $-C(O)-$, $-C(O)O-$ or $-NHC(O)-$, wherein s is 0 or 1
sor a pharmaceutically acceptable salt or prodrug thereof.

Claim [75] 77 (Currently Amended) A compound according to claim [74] 76, which has formula (I) :



wherein

A is an albumin binding residue,

B is a hydrophilic spacer being $-(CH_2)_lD[(CH_2)_nE]_m(CH_2)_pQ_q-$, wherein

l, m and n independently are 1-20 and p is 0-10,

Q is $-Z-(CH_2)_lD[(CH_2)_nG]_m(CH_2)_p-$,

q is an integer in the range from 0 to 5,

each D, E, and G independently are selected from $-O-$, $-NR^3-$, $-N(COR^4)-$, $-PR^5(O)-$, and $-P(OR^6)(O)-$, wherein R^3 , R^4 , R^5 , and R^6 independently represent hydrogen or C_{1-6} -alkyl,

Z is selected from -C(O)NH-, -C(O)NHCH₂-, -OC(O)NH -, -C(O)NHCH₂CH₂-, -C(O)CH₂-, -C(O)CH=CH-, -(CH₂)_s-, -C(O)-, -C(O)O- or -NHC(O)-, wherein s is 0 or 1,

Y is a chemical group linking B and the therapeutic agent, and

W is a chemical group linking A and B.

Claim [76] 78 (Currently Amended) A compound according to claim [74] 76, which has formula (II)



wherein

A and A' are albumin binding residues,

B and B' are hydrophilic spacers independently selected from -(CH₂)_lD [(CH₂)_nE]_m(CH₂)_p-Q_q-, wherein

l, m and n independently are 1-20 and p is 0-10,

Q is -Z-(CH₂)_lD[(CH₂)_nG]_m(CH₂)_p-,

q is an integer in the range from 0 to 5,

each D, E, and G independently are selected from -O-, -NR³-, -N(COR⁴)-, -PR⁵(O)-, and -P(OR⁶)(O)-, wherein R³, R⁴, R⁵, and R⁶ independently represent hydrogen or C₁₋₆-alkyl,

Z is selected from -C(O)NH-, -C(O)NHCH₂-, -OC(O)NH -, -C(O)NHCH₂CH₂-, -C(O)CH₂-, -C(O)CH=CH-, -(CH₂)_s-, -C(O)-, -C(O)O- or -NHC(O)-, wherein s is 0 or 1,

Y is a chemical group linking B and the therapeutic agent, and

Y' is a chemical group linking B' and the therapeutic agent, and

W is a chemical group linking A and B, and

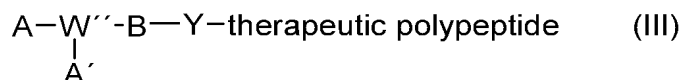
W' is a chemical group linking A' and B'.

Claim [77] 79 (Currently Amended) A compound according to claim [76] 78, wherein Y' is selected from the group consisting of -C(O)NH-, -NHC(O)-, -C(O)NHCH₂-, -CH₂NHC(O)-, -OC(O)NH -, -NHC(O)O-, -C(O)NHCH₂-, CH₂NHC(O)-, -C(O)CH₂-, -CH₂C(O)-, -C(O)CH=CH-, -CH=CHC(O)-, -(CH₂)_s-, -C(O)-, -C(O)O-, -OC(O)-, -NHC(O)- and -C(O)NH-, wherein s is 0 or 1.

Claim [78] 80 (Currently Amended) A compound according to claim [76] 78, wherein W' is selected from the group consisting of -C(O)NH-, -NHC(O)-, -C(O)NHCH₂-, -CH₂NHC(O)-, -OC(O)NH -, -

NHC(O)O-, -C(O)CH₂-, -CH₂C(O)-, -C(O)CH=CH-, -CH=CHC(O)-, -(CH₂)_s-, -C(O)-, -C(O)O-, -OC(O)-, -NHC(O)- and -C(O)NH-, wherein s is 0 or 1.

Claim [79] 81 (Currently Amended) A compound according to claim [74] 76, which has formula (III)



wherein

A and A' are albumin binding residues,

B is a hydrophilic spacer selected from -(CH₂)_lD[(CH₂)_nE]_m(CH₂)_p-Q_q- wherein

l, m and n independently are 1-20 and p is 0-10,

Q is -Z-(CH₂)_lD[(CH₂)_nG]_m(CH₂)_p-,

q is an integer in the range from 0 to 5,

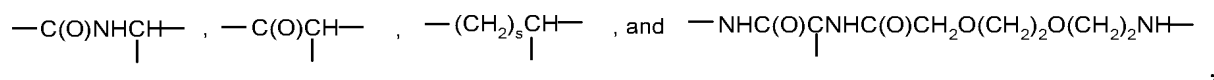
each D, E, and G are independently selected from -O-, -NR³-, -N(COR⁴)-, -PR⁵(O)-, and -P(OR⁶)(O)-, wherein R³, R⁴, R⁵, and R⁶ independently represent hydrogen or C₁₋₆-alkyl,

Z is selected from -C(O)NH-, -C(O)NHCH₂-, -OC(O)NH-, -C(O)NHCH₂CH₂-, -C(O)CH₂-, -C(O)CH=CH-, -(CH₂)_s-, -C(O)-, -C(O)O- or -NHC(O)-, wherein s is 0 or 1,

Y is a chemical group linking B and the therapeutic agent, and

W'' is a chemical group linking B with A and A'.

Claim [80] 82 (Currently Amended) A compound according to claim [79] 81, wherein W'' is selected from the group consisting of



wherein s is 0, 1 or 2.

Claim [81] 83 (Currently Amended) A compound according to claim [75] 77, wherein Y is selected from the group consisting of -C(O)NH-, -NHC(O)-, -C(O)NHCH₂-, -CH₂NHC(O)-, -OC(O)NH-, -NHC(O)O-, -C(O)NHCH₂-, CH₂NHC(O)-, -C(O)CH₂-, -CH₂C(O)-, -C(O)CH=CH-, -CH=CHC(O)-, -(CH₂)_s-, -C(O)-, -C(O)O-, -OC(O)-, -NHC(O)- and -C(O)NH-, wherein s is 0 or 1.

Claim [82] 84 (Currently Amended) A compound according to claim [75] 77, wherein W is selected from the group consisting of -C(O)NH-, -NHC(O)-, -C(O)NHCH₂-, -CH₂NHC(O)-, -OC(O)NH-, -NHC(O)O-, -C(O)CH₂-, -CH₂C(O)-, -C(O)CH=CH-, -CH=CHC(O)-, -(CH₂)_s-, -C(O)-, -C(O)O-, -OC(O)-, -NHC(O)- and -C(O)NH-, wherein s is 0 or 1.

Claim [83] 85 (Currently Amended) A compound according to claim [74] 76, wherein l is 1 or 2, n and m are independently 1-10 and p is 0-10.

Claim [84] 86 (Currently Amended) A compound according to claim [74] 76, wherein D is -O-.

Claim [85] 87 (Currently Amended) A compound according to claim [74] 76, wherein E is -O-.

Claim [86] 88 (Currently Amended) A compound according to claim [74] 76, wherein the hydrophilic spacer is

-CH₂O[(CH₂)₂O]_m(CH₂)_pQ_q-, where m is 1-10, p is 1-3, and Q is -Z-CH₂O[(CH₂)₂O]_m(CH₂)_p-.

Claim [87] 89 (Currently Amended) A compound according to claim [74] 76, wherein q is 0 or 1.

Claim [88] 90 (Currently Amended) A compound according to claim [74] 76, wherein q is 1.

Claim [89] 91 (Currently Amended) A compound according to claim [74] 76, wherein G is -O-.

Claim [90] 92 (Currently Amended) A compound according to claim [74] 76, wherein Z is selected from the group consisting of -C(O)NH-, -C(O)NHCH₂-, and -OC(O)NH-.

Claim [91] 93 (Currently Amended) A compound according to claim [74] 76, wherein q is 0.

Claim [92] 94 (Currently Amended) A compound according to claim [74] 76, wherein l is 2.

Claim [93] 95 (Currently Amended) A compound according to claim [74] 76, wherein n is 2.

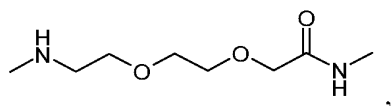
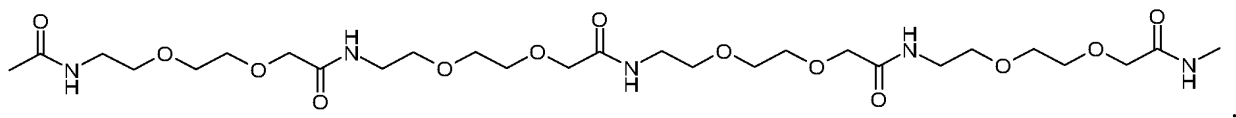
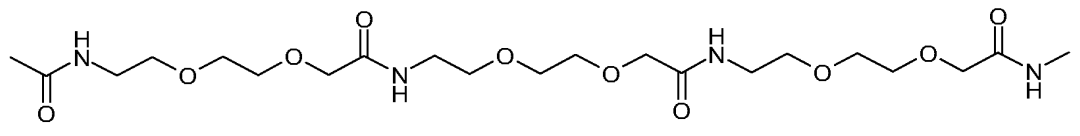
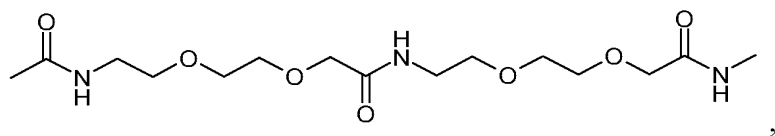
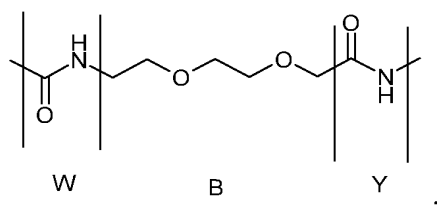
Claim [94] 96 (Currently Amended) A compound according to claim [74] 76, wherein the hydrophilic spacer B is $-\text{[CH}_2\text{CH}_2\text{O]}_{m+1}\text{(CH}_2\text{)}_p\text{Q}_q-$.

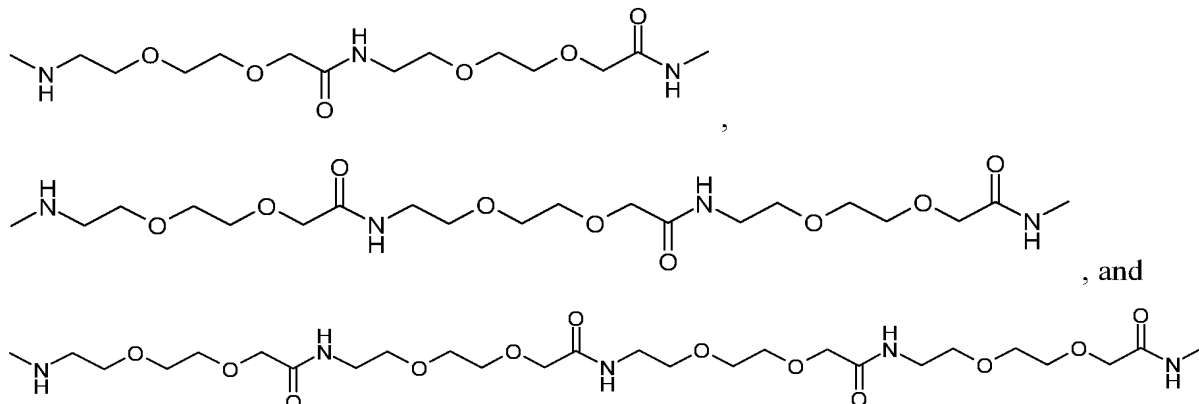
Claim [95] 97 (Currently Amended) A compound according to claim [74] 76, wherein the hydrophilic spacer B is



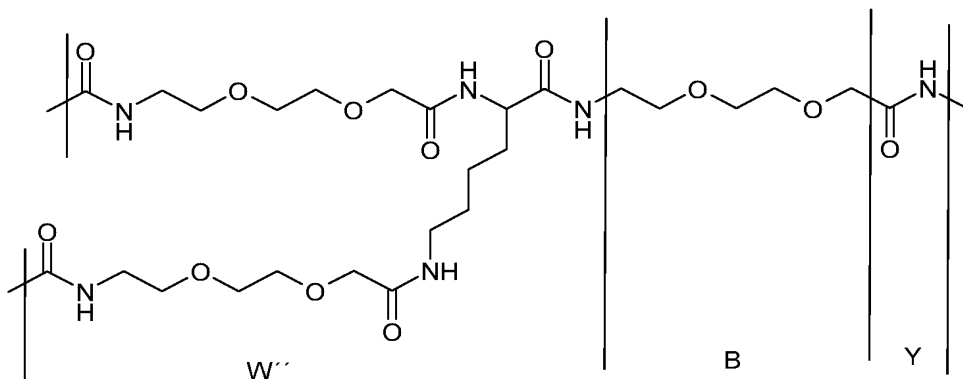
where l, m, n, and p independently are 1-5, and q is 0-5.

Claim [96] 98 (Currently Amended) A compound according to claim [75] 77, wherein -W-B-Y- is selected from the group consisting of





Claim [97] 99 (Currently Amended) A compound according to claim [79] 81, wherein >W''-B-Y- is



Claim [98] 100 (Currently Amended) A compound according to claim [73] 75, wherein the molar weight of said hydrophilic spacer is in the range from 80D to 1000D or in the range from 80D to 300D.

Claim [99] 101 (Currently Amended) A compound according to claim [73] 75, wherein said albumin binding residue is a lipophilic residue.

Claim [100] 102 (Currently Amended) A compound according to claim [73] 75, wherein said albumin binding residue binds non-covalently to albumin.

Claim [101] 103 (Currently Amended) A compound according to claim [73] 75, wherein said albumin binding residue is negatively charged at physiological pH.

Claim [102] 104 (Currently Amended) A compound according to claim [73] 75, wherein said albumin binding residue has a binding affinity towards human serum albumin that is below about 10 μ M.

Claim [103] 105 (Currently Amended) A compound according to claim [73] 75, wherein said albumin binding residue is selected from a straight chain alkyl group, a branched alkyl group, a group which has an ω -carboxylic acid group, a partially or completely hydrogenated cyclopentanophenanthrene skeleton.

Claim [104] 106 (Currently Amended) A compound according to claim [73] 75, wherein said albumin binding residue is a cibacronyl residue.

Claim [105] 107 (Currently Amended) A compound according to claim [73] 75, wherein said albumin binding residue has from 6 to 40 carbon atoms.

Claim [106] 108 (Currently Amended) A compound according to claim [73] 75, wherein said albumin binding residue is a peptide.

Claim [107] 109 (Currently Amended) A compound according to claim [73] 75, wherein the albumin binding residue via spacer and linkers is attached to said therapeutic polypeptide via the ϵ -amino group of a lysine residue.

Claim [108] 110 (Currently Amended) A compound according to claim [73] 75, wherein the albumin binding residue via spacer and linkers is attached to said therapeutic polypeptide via a linker to an amino acid residue selected from cysteine, glutamate and aspartate.

Claim [109] 111 (Currently Amended) A compound according to claim [73] 75, wherein said therapeutic polypeptide is a glucagon-like peptide 1 (GLP-1) peptide.

Claim [110] 112 (Currently Amended) A compound according to claim [109] 111, wherein said polypeptide is a GLP-1 peptide comprising the amino acid sequence of the formula (IV):

Xaa₇-Xaa₈-Glu-Gly-Thr-Phe-Thr-Ser-Asp-Xaa₁₆-Ser-Xaa₁₈-Xaa₁₉-Xaa₂₀-Glu-Xaa₂₂-Xaa₂₃-Ala-Xaa₂₅-
Xaa₂₆-Xaa₂₇-Phe-Ile-Xaa₃₀-Trp-Leu-Xaa₃₃-Xaa₃₄-Xaa₃₅-Xaa₃₆-Xaa₃₇-Xaa₃₈-Xaa₃₉-Xaa₄₀-Xaa₄₁-Xaa₄₂-
Xaa₄₃-Xaa₄₄-Xaa₄₅-Xaa₄₆

Formula (IV) (SEQ ID No: 2)

wherein

Xaa₇ is L-histidine, D-histidine, desamino-histidine, 2-amino-histidine, β -hydroxy-histidine, homohistidine, N^α-acetyl-histidine, α -fluoromethyl-histidine, α -methyl-histidine, 3-pyridylalanine, 2-pyridylalanine or 4-pyridylalanine;

Xaa₈ is Ala, Gly, Val, Leu, Ile, Lys, Aib, (1-aminocyclopropyl) carboxylic acid, (1-aminocyclobutyl) carboxylic acid, (1-aminocyclopentyl) carboxylic acid, (1-aminocyclohexyl) carboxylic acid, (1-aminocycloheptyl) carboxylic acid, or (1-aminocyclooctyl) carboxylic acid;

Xaa₁₆ is Val or Leu;

Xaa₁₈ is Ser, Lys or Arg;

Xaa₁₉ is Tyr or Gln;

Xaa₂₀ is Leu or Met;

Xaa₂₂ is Gly, Glu or Aib;

Xaa₂₃ is Gln, Glu, Lys or Arg;

Xaa₂₅ is Ala or Val;

Xaa₂₆ is Lys, Glu or Arg;

Xaa₂₇ is Glu or Leu;

Xaa₃₀ is Ala, Glu or Arg;

Xaa₃₃ is Val or Lys;

Xaa₃₄ is Lys, Glu, Asn or Arg;

Xaa₃₅ is Gly or Aib;

Xaa₃₆ is Arg, Gly or Lys;

Xaa₃₇ is Gly, Ala, Glu, Pro, Lys, amide or is absent;

Xaa₃₈ is Lys, Ser, amide or is absent.

Xaa₃₉ is Ser, Lys, amide or is absent;

Xaa₄₀ is Gly, amide or is absent;

Xaa₄₁ is Ala, amide or is absent;

Xaa₄₂ is Pro, amide or is absent;

Xaa₄₃ is Pro, amide or is absent;

Xaa₄₄ is Pro, amide or is absent;

Xaa₄₅ is Ser, amide or is absent;

Xaa₄₆ is amide or is absent ;

provided that if Xaa₃₈, Xaa₃₉, Xaa₄₀, Xaa₄₁, Xaa₄₂, Xaa₄₃, Xaa₄₄, Xaa₄₅ or Xaa₄₆ is absent then each amino acid residue downstream is also absent.

Claim [111] 113 (Currently Amended) A compound according to claim [110] 112, wherein said polypeptide is a GLP-1 peptide comprising the amino acid sequence of formula (V):

Xaa₇-Xaa₈-Glu-Gly-Thr-Phe-Thr-Ser-Asp-Val-Ser-Xaa₁₈-Tyr-Leu-Glu-Xaa₂₂-Xaa₂₃-Ala-Ala-Xaa₂₆-
Glu-Phe-Ile-Xaa₃₀-Trp-Leu-Val-Xaa₃₄-Xaa₃₅-Xaa₃₆-Xaa₃₇-Xaa₃₈

Formula (V) (SEQ ID No: 3)

wherein

Xaa₇ is L-histidine, D-histidine, desamino-histidine, 2-amino-histidine, β -hydroxy-histidine, homohistidine, N^α-acetyl-histidine, α -fluoromethyl-histidine, α -methyl-histidine, 3-pyridylalanine, 2-pyridylalanine or 4-pyridylalanine;

Xaa₈ is Ala, Gly, Val, Leu, Ile, Lys, Aib, (1-aminocyclopropyl) carboxylic acid, (1-aminocyclobutyl) carboxylic acid, (1-aminocyclopentyl) carboxylic acid, (1-aminocyclohexyl) carboxylic acid, (1-aminocycloheptyl) carboxylic acid, or (1-aminocyclooctyl) carboxylic acid;

Xaa₁₈ is Ser, Lys or Arg;

Xaa₂₂ is Gly, Glu or Aib;

Xaa₂₃ is Gln, Glu, Lys or Arg;

Xaa₂₆ is Lys, Glu or Arg;

Xaa₃₀ is Ala, Glu or Arg;

Xaa₃₄ is Lys, Glu or Arg;

Xaa₃₅ is Gly or Aib;

Xaa₃₆ is Arg or Lys;

Xaa₃₇ is Gly, Ala, Glu or Lys;

Xaa₃₈ is Lys, amide or is absent.

Claim [112] 114 (Currently Amended) A compound according to claim [109] 111, wherein said GLP-1 peptide is selected from GLP-1(7-35), GLP-1(7-36), GLP-1(7-36)-amide, GLP-1(7-37), GLP-1(7-38), GLP-1(7-39), GLP-1(7-40), GLP-1(7-41) or an analogue thereof.

Claim [113] 115 (Currently Amended) A compound according to claim [109] 111, wherein said GLP-1 peptide comprises no more than ten amino acid residues which have been exchanged, added or deleted as compared to GLP-1(7-37) (SEQ ID No. 1).

Claim [114] 116 (Currently Amended) A compound according to claim [113] 115, wherein said GLP-1 peptide comprises no more than six amino acid residues which have been exchanged, added or deleted as compared to GLP-1(7-37) (SEQ ID No. 1).

Claim [115] 117 (Currently Amended) A compound according to claim [113] 115, wherein said GLP-1 peptide comprises no more than 4 amino acid residues which are not encoded by the genetic code.

Claim [116] 118 (Currently Amended) A compound according to claim [109] 111, wherein said GLP-1 peptide is a DPPIV protected GLP-1 peptide.

Claim [117] 119 (Currently Amended) A compound according to claim [109] 111, wherein said compound is DPPIV stabilised.

Claim [118] 120 (Currently Amended) A compound according to claim [109] 111, wherein said GLP-1 peptide comprises an Aib residue in position 8.

Claim [119] 121 (Currently Amended) A compound according to claim [109] 111, wherein the amino acid residue in position 7 of said GLP-1 peptide is selected from the group consisting of D-histidine, desamino-histidine, 2-amino-histidine, β -hydroxy-histidine, homohistidine, N ^{α} -acetyl-histidine, α -fluoromethyl-histidine, α -methyl-histidine, 3-pyridylalanine, 2-pyridylalanine and 4-pyridylalanine.

Claim [120] 122 (Currently Amended) A compound according to claim [109] 111, wherein said GLP-1 peptide is selected from the group consisting of Arg³⁴GLP-1(7-37), Lys³⁸Arg^{26,34}GLP-1(7-38), Lys³⁸Arg^{26,34}GLP-1(7-38)-OH, Lys³⁶Arg^{26,34}GLP-1(7-36), Aib^{8,22,35}GLP-1(7-37), Aib^{8,35}GLP-1(7-37), Aib^{8,22}GLP-1(7-37), Aib^{8,22,35}Arg^{26,34}Lys³⁸GLP-1(7-38), Aib^{8,35}Arg^{26,34}Lys³⁸GLP-1(7-38), Aib^{8,22}Arg^{26,34}Lys³⁸GLP-1(7-38), Aib^{8,22,35}Arg^{26,34}Lys³⁸GLP-1(7-38), Aib^{8,35}Arg^{26,34}Lys³⁸GLP-1(7-38), Aib^{8,22,35}Arg²⁶Lys³⁸GLP-1(7-38), Aib^{8,35}Arg²⁶Lys³⁸GLP-1(7-38), Aib^{8,22}Arg²⁶Lys³⁸GLP-1(7-38), Aib^{8,22,35}Arg³⁴Lys³⁸GLP-1(7-38), Aib^{8,35}Arg³⁴Lys³⁸GLP-1(7-38), Aib^{8,22}Arg³⁴Lys³⁸GLP-1(7-38), Aib^{8,22,35}Ala³⁷Lys³⁸GLP-1(7-38), Aib^{8,35}Ala³⁷Lys³⁸GLP-1(7-38), Aib^{8,22}Ala³⁷Lys³⁸GLP-1(7-38), Aib^{8,22,35}Lys³⁷GLP-1(7-37), Aib^{8,35}Lys³⁷GLP-1(7-37) and Aib^{8,22}Lys³⁷GLP-1(7-38).

Claim [121] 123 (Currently Amended) A compound according to claim [109] 111, wherein said GLP-1 peptide is attached to said hydrophilic spacer via the amino acid residue in position 23, 26, 34, 36 or 38 relative to the amino acid sequence SEQ ID No:1.

Claim [122] 124 (Currently Amended) A compound according to claim [109] 111, wherein said GLP-1 peptide is exendin-4.

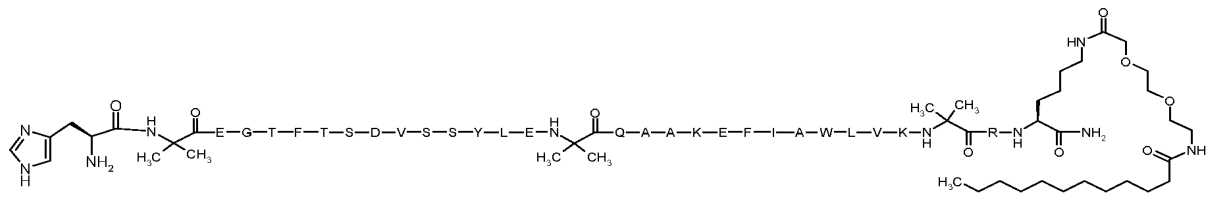
Claim [123] 125 (Currently Amended) A compound according to claim [109] 111, wherein said GLP-1 peptide is HGEGTFTSDLSKQMEEEEAVRLFIEWLKNGGPSSGAPPSKKKKKKK-amide.

Claim [124] 126 (Currently Amended) A compound according to claim [109] 111, wherein one albumin binding residue via said hydrophilic spacer is attached to the C-terminal amino acid residue of said GLP-1 peptide.

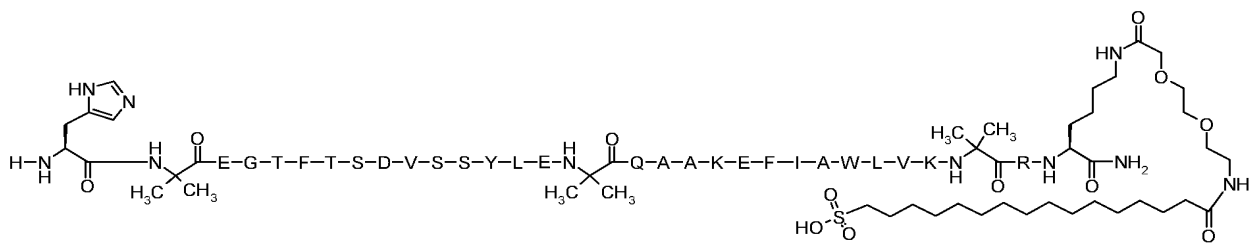
Claim [125] 127 (Currently Amended) A compound according to claim [124] 126, wherein a second albumin binding residue is attached to an amino acid residue which is not the C-terminal amino acid residue.

Claim [126] 128 (Currently Amended) A compound according to claim [73] 75, wherein said compound is selected from the group consisting of

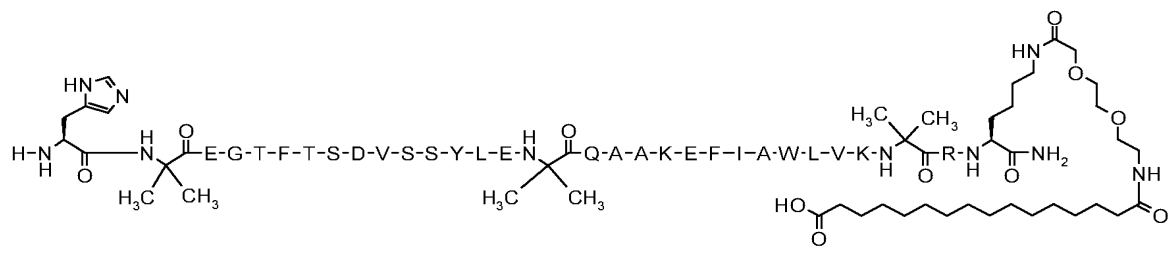
$N^{\epsilon 37}$ -(2-(2-(2-(dodecylamino)ethoxy)ethoxy)acetyl)-[Aib^{8,22,35}Lys³⁷]GLP-1(7-37)amide



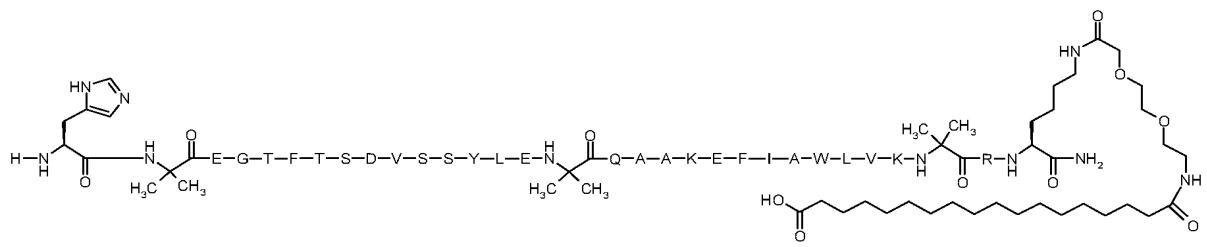
$N^{\epsilon 37}$ -(2-(2-(2-(17-sulphohexadecanoylamino)ethoxy)ethoxy)acetyl)-[Aib^{8,22,35}Lys³⁷] GLP-1 (7-37)amide



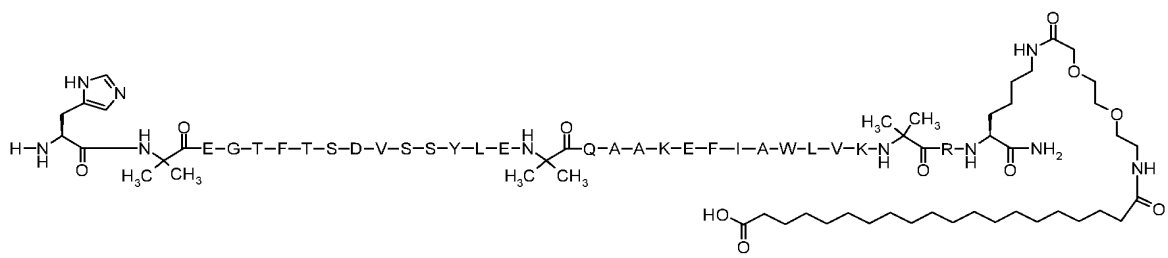
$N^{\epsilon 37}$ -(2-[2-(2-(15-carboxypentadecanoylamino)ethoxy)ethoxy]acetyl)-[Aib^{8,22,35}Lys³⁷] GLP-1(7-37)amide



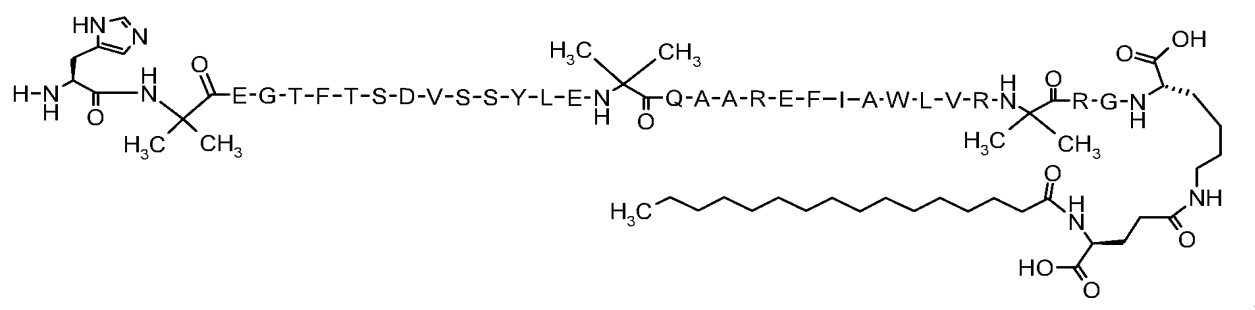
N⁶³⁷-(2-(2-(2-(17-carboxyheptadecanoylamino)ethoxy)ethoxy)acetyl)[Aib^{8,22,35},Lys³⁷]GLP-1(7-37)amide



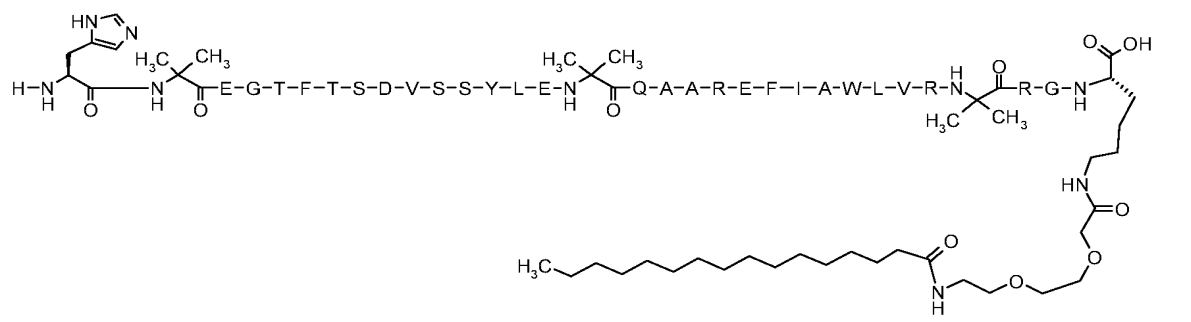
N⁶³⁷-(2-(2-(2-(19-carboxynonadecanoylamino)ethoxy)ethoxy)acetyl)[Aib^{8,22,35},Lys³⁷]GLP-1(7-37)amide



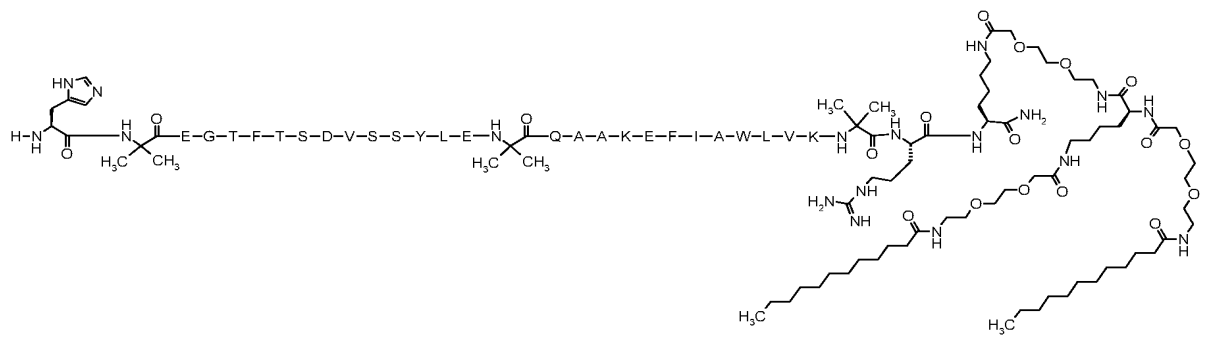
[Aib^{8,22,35},Arg^{26,34}]GLP-1-(7-37)Lys(4-(Hexadecanoylamino)-4(S)-carboxybutyryl)-OH



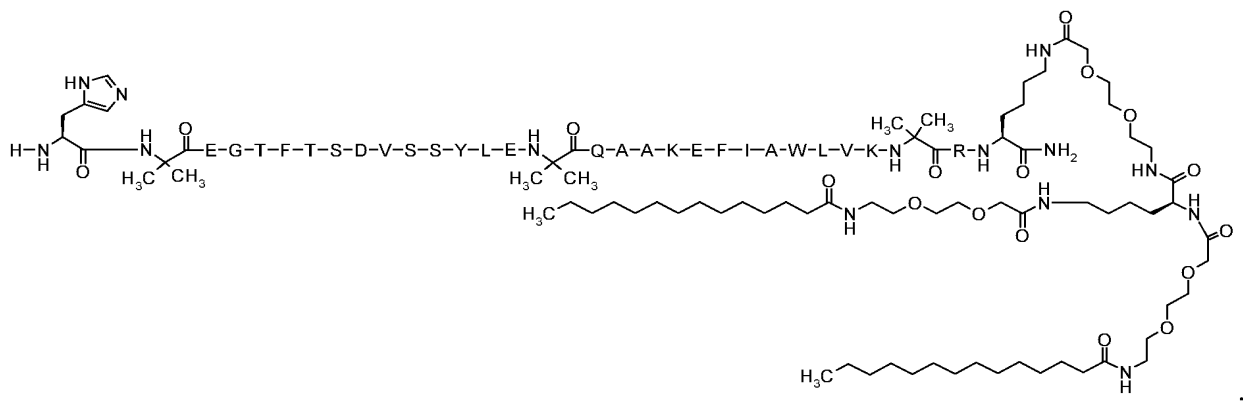
[Aib^{8,22,35},Arg^{26,34}]GLP-1-(7-37)Lys(2-(2-(2-(hexadecanoylamino)ethoxy)ethoxy)acetyl)-OH



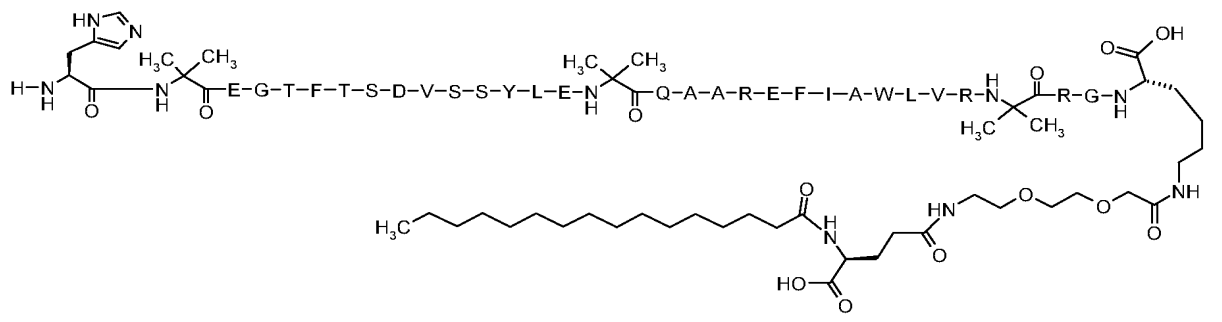
N⁶³⁷(2-[2-(2,6-(S)-Bis-{2-[2-(2-(dodecanoylamino)ethoxy)ethoxy]acetyl-amino}hexanoylamino)ethoxy]ethoxy})
acetyl-[Aib^{8,22,35}]GLP-1(7-37)amide



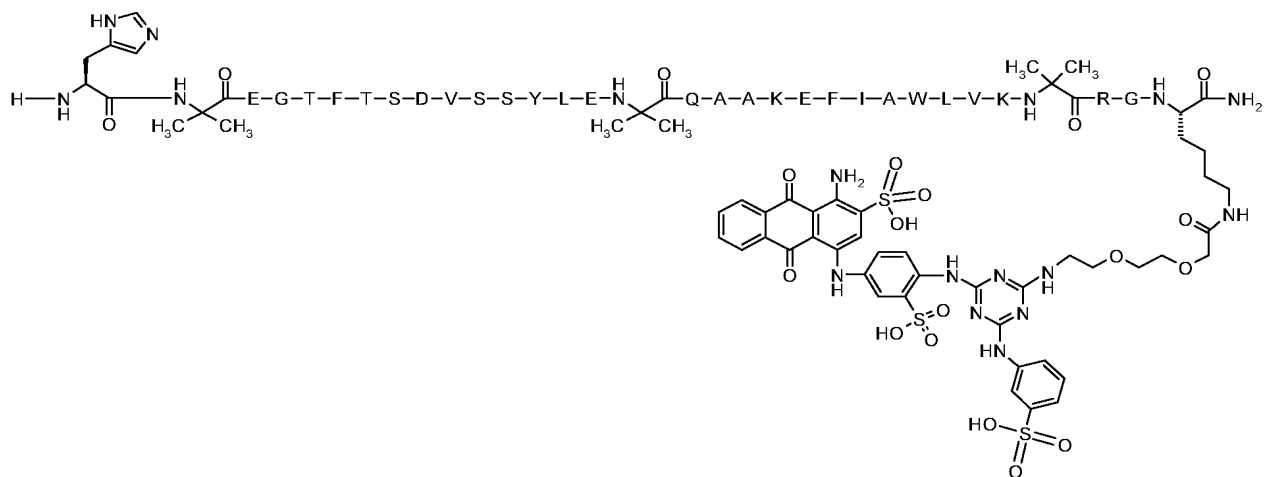
N⁶³⁷-(2-[2-(2,6-(S)-Bis-{2-[2-(2-(tetradecanoylamino)ethoxy)ethoxy]acetyl-amino}hexanoylamino)ethoxy]ethoxy})
acetyl-[Aib^{8,22,35}]GLP-1(7-37)amide



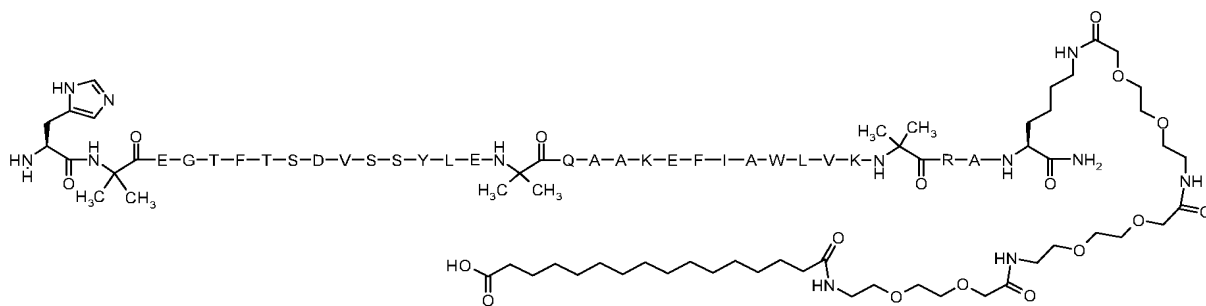
[Aib^{8,22,35},Arg^{26,34}]GLP-1-(7-37)Lys(2-(2-(2-(4-(Hexadecanoylamino)-4(S)-carboxybutyrylamino)ethoxy)ethoxy)acetyl)-OH



[Aib^{8,22,35}]GLP-1(7-37)Lys((2-{2-[4-[4-(4-Amino-9,10-dioxo-3-sulfo-9,10-dihydro-anthracen-1-ylamino)-2-sulfo-phenylamino]-6-(2-sulfo-phenylamino)-[1,3,5]triazin-2-ylamino]-ethoxy}-ethoxy)-acetyl))amide

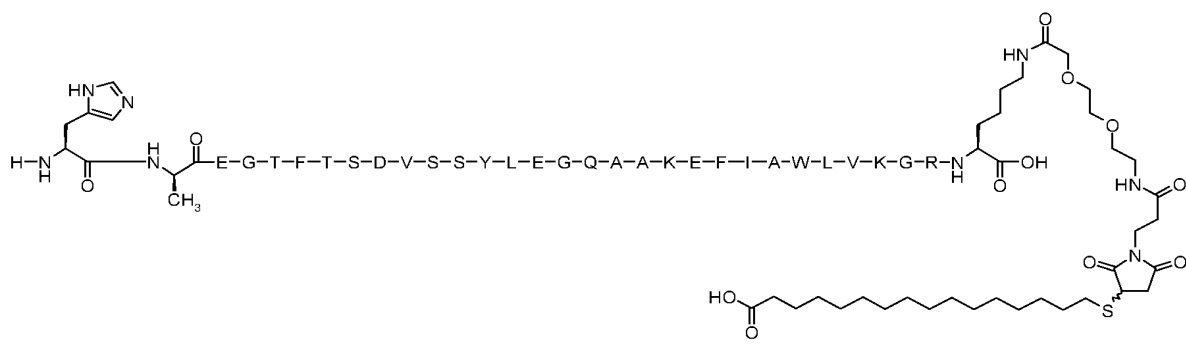


[Aib^{8,22,35}]GLP-1(7-37)Lys(((2-[2-(2-{2-[2-(2-{2-[2-(15-carboxypentadecanoylamino)-ethoxy]ethoxy}acetyl amino)ethoxy]ethoxy}acetyl amino)ethoxy]ethoxy}acetyl))amide

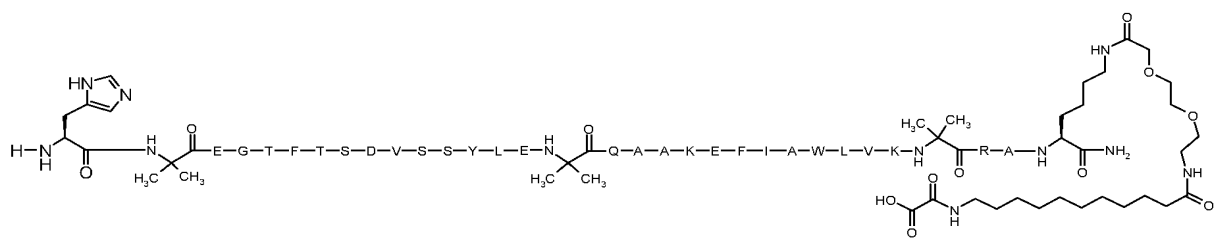


N^{ε37}-(2-(2-{3-[2,5-dioxo-3-(15-carboxypentadecylsulfanyl)-pyrrolidin-1-yl]-propionylamino}ethoxy)ethoxy)acetyl]-[D-Ala⁸,Lys³⁷]-GLP-1-[7-

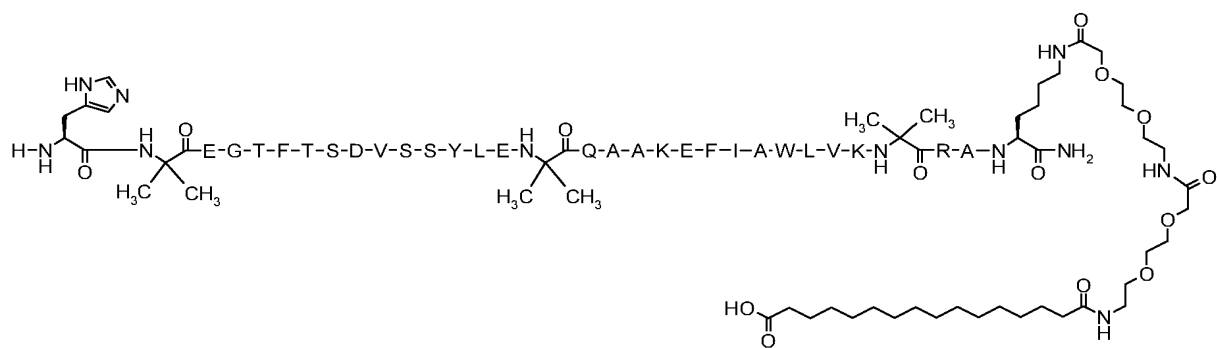
37]amide



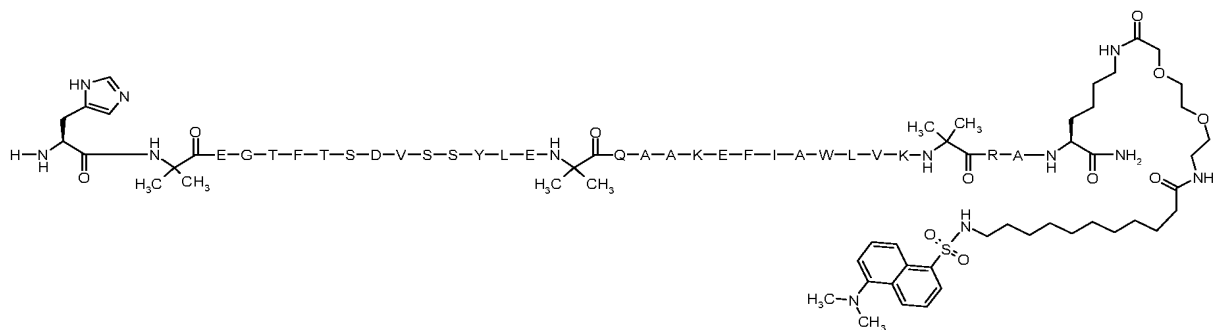
[Aib^{8,22,35}Ala³⁷]GLP-1(7-37)Lys((2-(2-(2-(11-(oxalylamino)undecanoylamino)ethoxy)ethoxy)acetyl-))amide



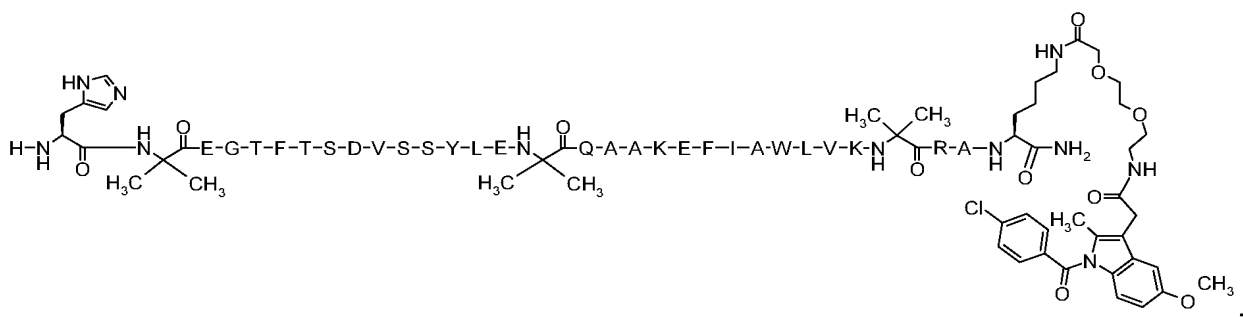
[Aib^{8,22,35}Ala³⁷]-GLP-1(7-37)Lys({2-[2-(2-{2-[2-(2-(15-carboxy-pentadecanoylamino)-ethoxy]ethoxy}acetyl)amino)ethoxy]ethoxy}acetyl)amide



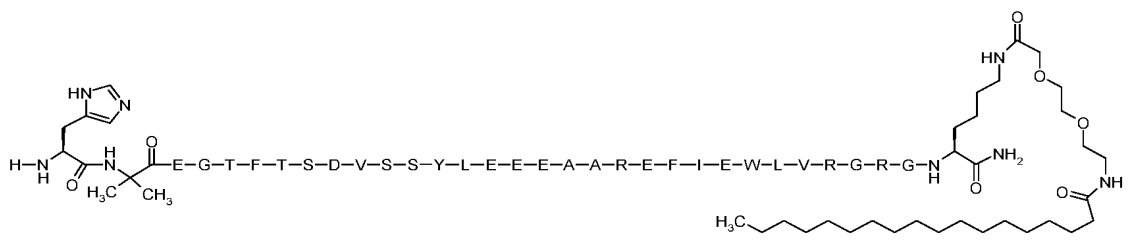
[Aib^{8,22,35}Ala³⁷]-GLP-1(7-37)Lys((2-{2-[11-(5-Dimethylaminonaphthalene-1-sulfonylamino)undecanoylamino]ethoxy}ethoxy)acetyl)amide



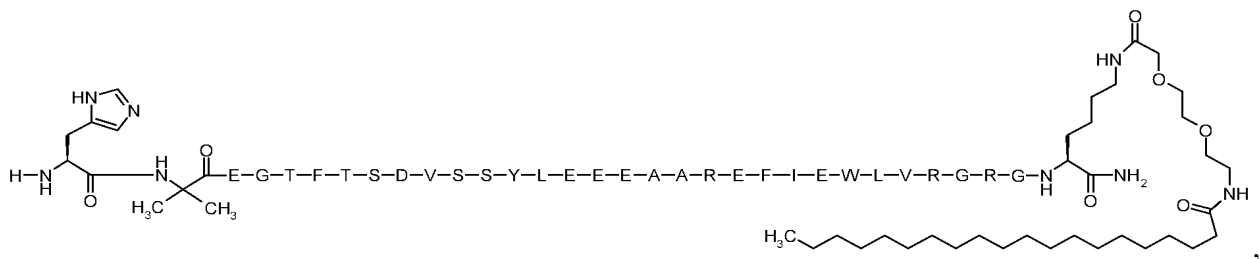
[Aib^{8,22,35},Ala³⁷]-GLP-1(7-37)Lys((2-(2-{2-[1-(4-Chlorobenzoyl)-5-methoxy-2-methyl-1H-indol-3-yl]acetylamino}ethoxy)ethoxy)acetyl)amide



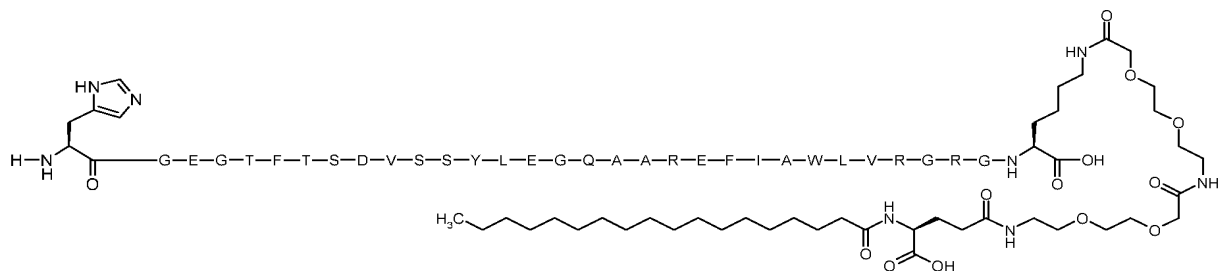
[Aib⁸,Arg^{26,34},Glu^{22,23,30}]-GLP-1 H(7-37)Lys(2-(2-(2-(octadecanoylamino)ethoxy)ethoxy)acetyl)amide



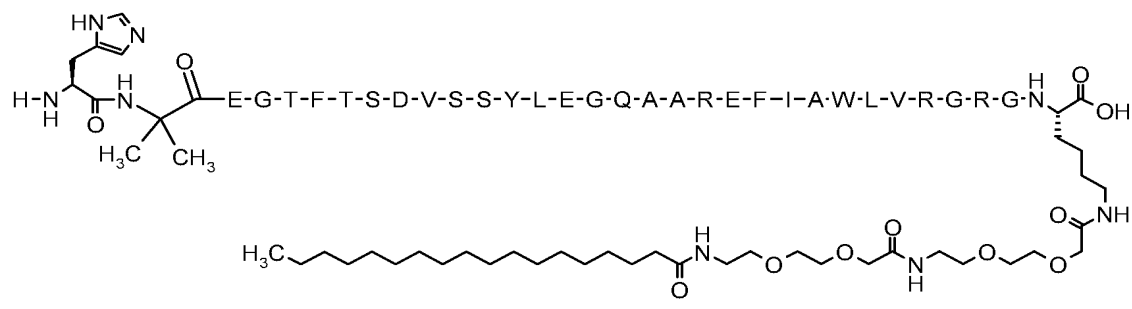
[Aib⁸,Arg^{26,34},Glu^{22,23,30}]-GLP-1(7-37)Lys(2-(2-(2-(eicosanoylamino)ethoxy)ethoxy)acetyl)amide



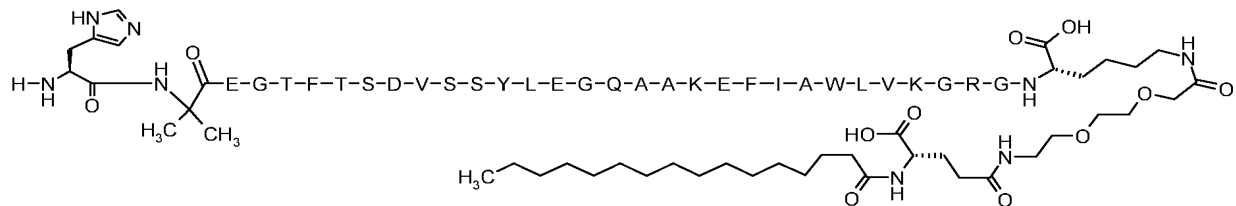
[Gly⁸,Arg^{26,34}] GLP-1 H-(7-37)Lys(2-(2-(2-(2-(2-(4-(octadecanoylamino)-4(S)-carboxybutyrylamino)ethoxy)ethoxy)acetyl)ethoxy)ethoxy)acetyl)-OH



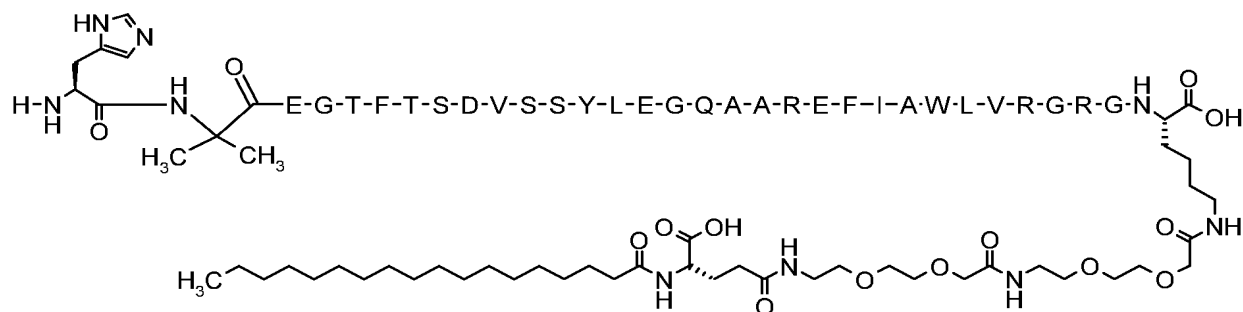
[Aib⁸,Arg^{26,34}]GLP-1 (7-37)Lys{2-(2-(2-(2-[2-(2-(octadecanoylamino)ethoxy)ethoxy]acetyl)ethoxy)ethoxy)acetyl)}-OH



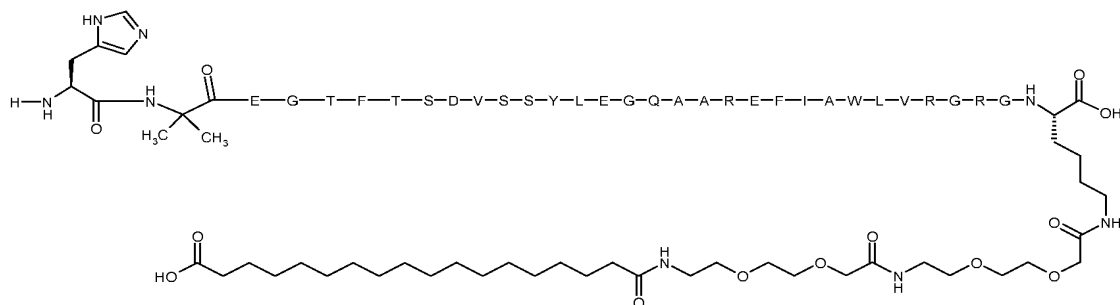
[Aib⁸] -GLP-1-(7-37)Lys (2-(2-(2-(4-(Hexadecanoylamino)-4(S)-carboxybutyrylamino)ethoxy)ethoxy)acetyl)-OH



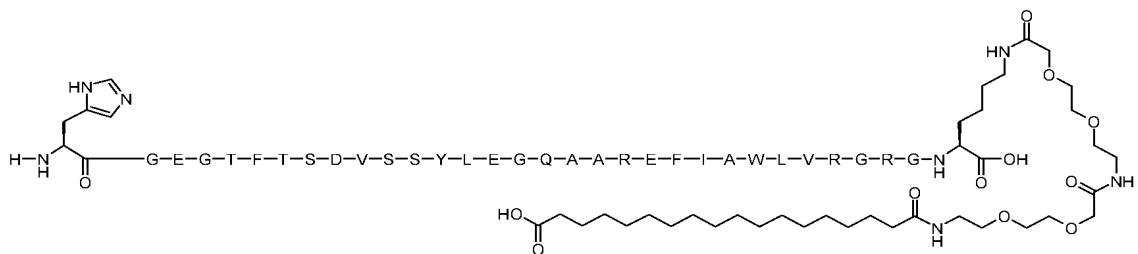
[Aib⁸,Arg^{26,34}] GLP-1(7-37) Lys{2-(2-(2-(2-[2-(2-(4-(octadecanoylamino)-4-carboxybutyrylamino)ethoxy)ethoxy]acetyl)ethoxy)ethoxy)acetyl)}-OH



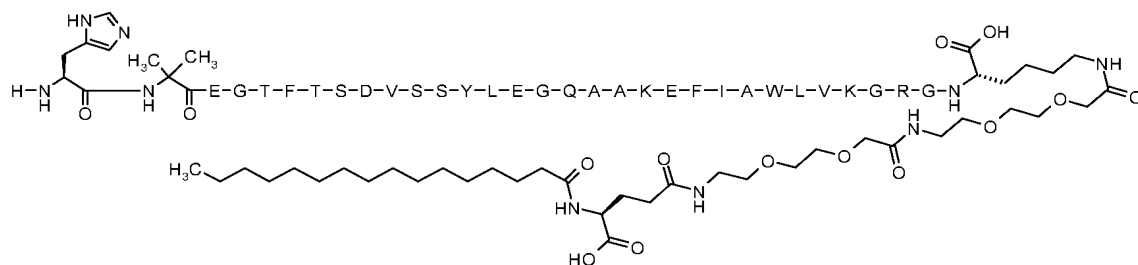
[Aib⁸,Arg^{26,34}] GLP-1 (7-37)Lys{2-(2-(2-(2-[2-(2-(17-carboxyheptanoylamino)ethoxy)ethoxy]acetyl)amino)ethoxy)ethoxy)acetyl)}-OH



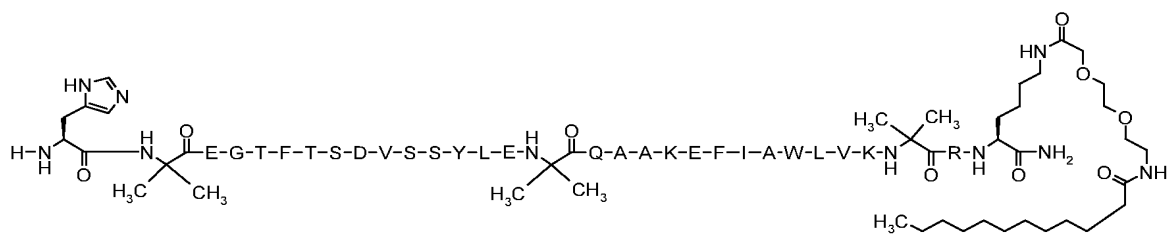
[Gly⁸, Arg^{26,34}] GLP1-(7-37) Lys{2-(2-(2-(2-[2-(2-(17-carboxyheptadecanoylamino)ethoxy)ethoxy]acetyl)ethoxy)ethoxy)acetyl)}-OH



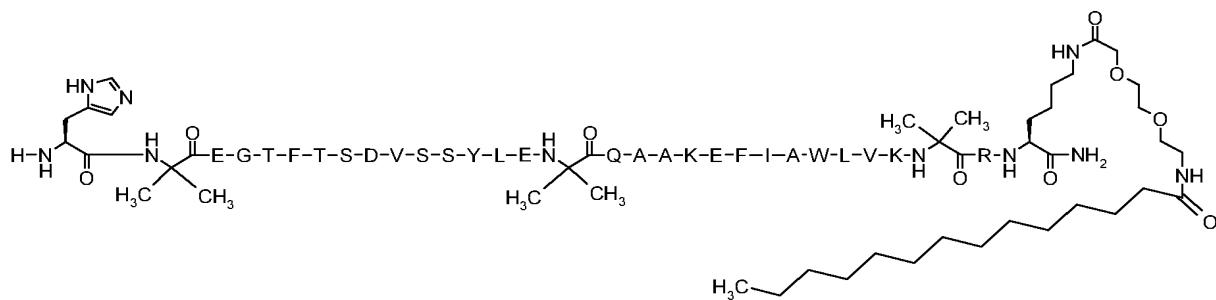
[Aib⁸]GLP-1-(7-37)Lys(2-(2-(2-(2-(2-(2-(4-(Hexadecanoylamino)-4(S)-carboxybutyrylamino)ethoxy)ethoxy)acetyl)amino)ethoxy)ethoxy)acetyl)-OH



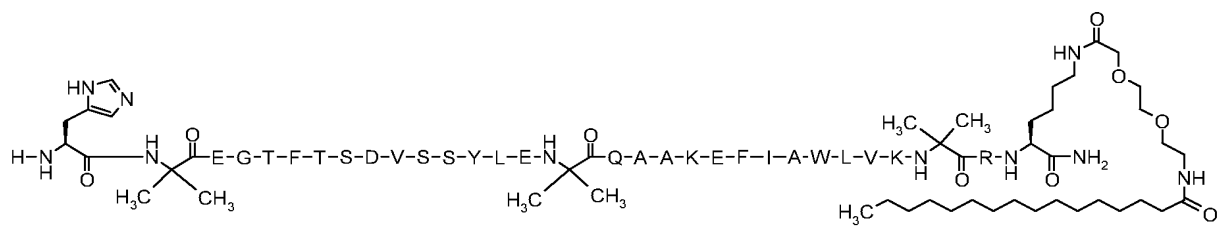
N^{ε37}-(2-(2-(2-(dodecanoylamino)ethoxy)ethoxy)acetyl)-[Aib^{8,22,35}Lys³⁷] GLP-1 H(7-37)-amide



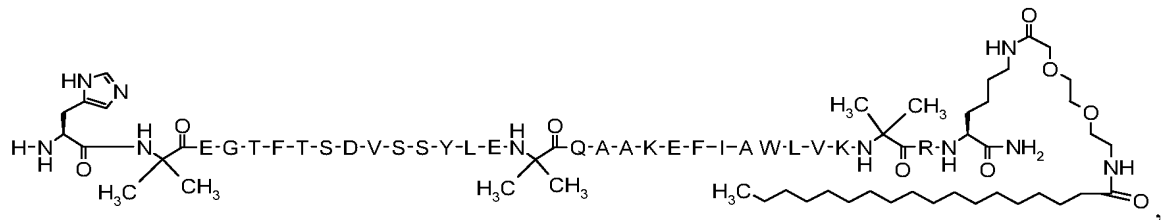
N^{ε37}-(2-(2-(2-(tetradecanoylamino)ethoxy)ethoxy)acetyl)-[Aib^{8,22,35}Lys³⁷] GLP-1 H(7-37)-amide



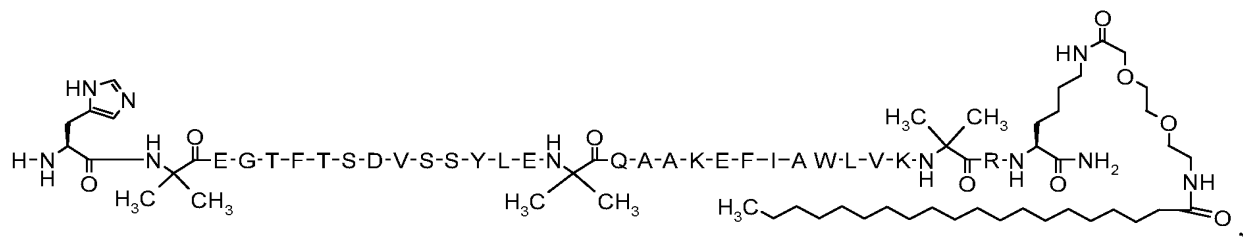
N^{ε37}-(2-(2-(2-(hexadecanoylamino)ethoxy)ethoxy)acetyl)-[Aib^{8,22,35}Lys³⁷] GLP-1 (7-37)-amide



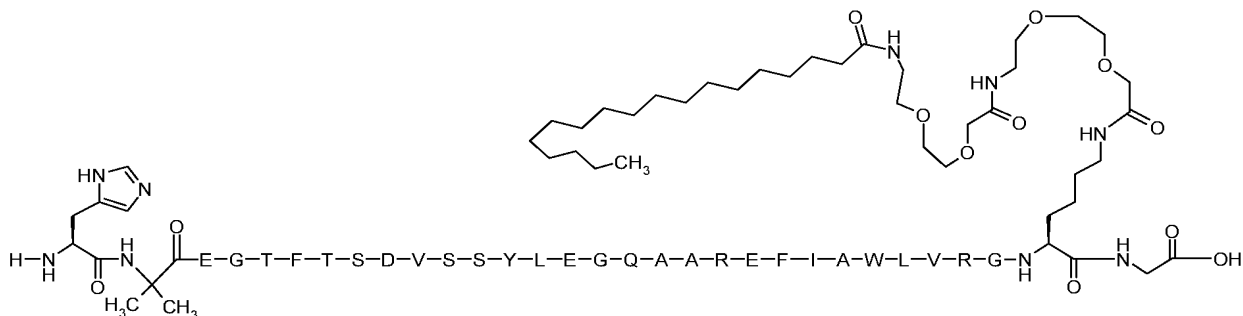
N^{ε37}-(2-(2-(2-(octadecanoylamino)ethoxy)ethoxy)acetyl)-[Aib^{8,22,35}Lys³⁷] GLP-1 (7-37)-amide



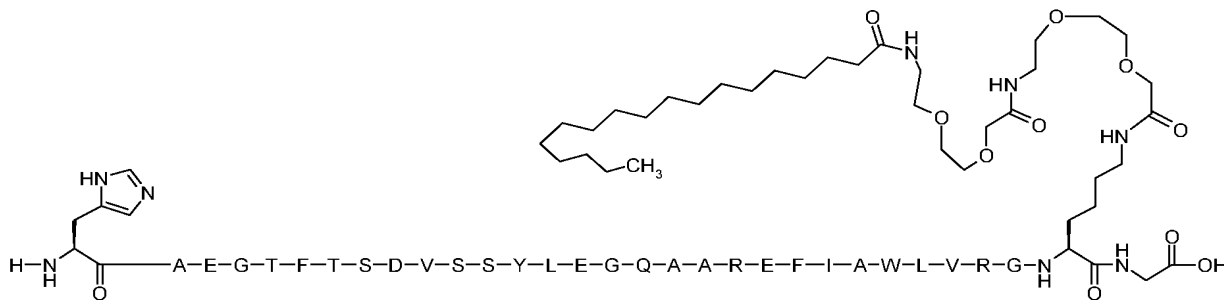
N^{ε37}-(2-(2-(2-(eicosanoylamino)ethoxy)ethoxy)acetyl)-[Aib^{8,22,35}Lys³⁷] GLP-1(7-37)-amide



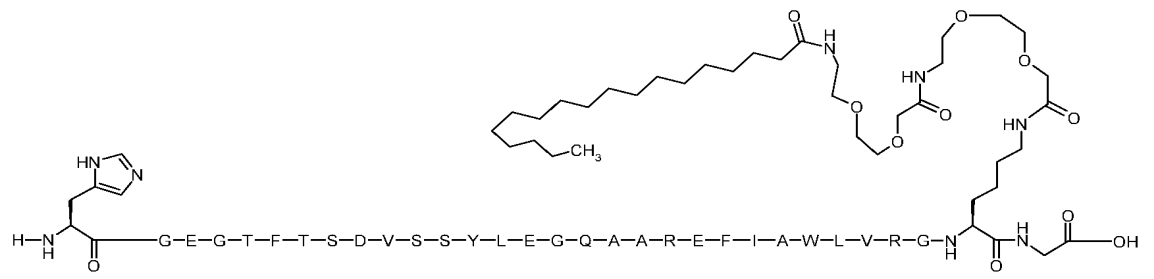
N^{ε36}-(2-(2-(2-(2-(2-(2-(octadecanoylamino)ethoxy)ethoxy)acetyl)amino)ethoxy)ethoxy)acetyl)-[Aib⁸,Arg^{26,34},Lys³⁶]GLP-1-(7-37)-OH



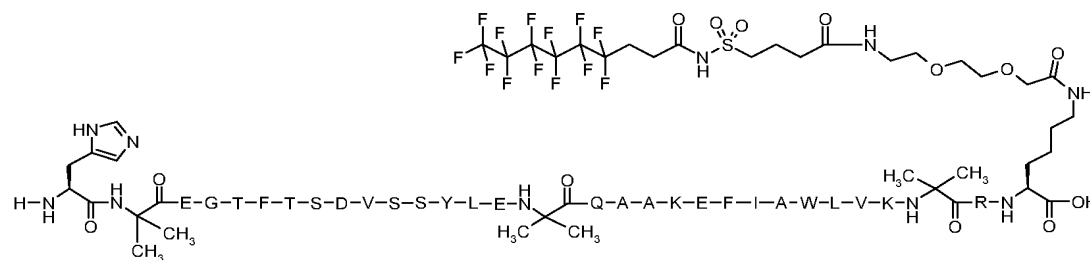
N^{ε36}-(2-(2-(2-(2-(2-(2-(octadecanoylamino)ethoxy)ethoxy)acetyl)amino)ethoxy)ethoxy)acetyl)-[Arg^{26,34},Lys³⁶]GLP-1(7-37)-OH



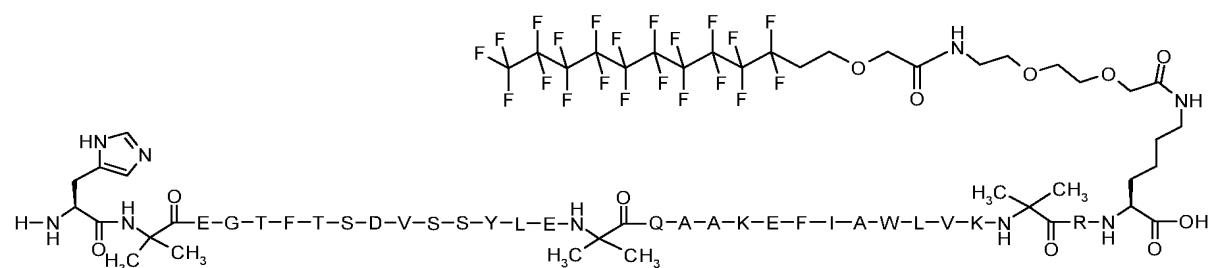
N^{ε36}-{2-(2-(2-(2-[2-(2-(octadecanoylamino)ethoxy)ethoxy]acetyl)amino)ethoxy)ethoxy)acetyl)}-[Gly⁸,Arg^{26,34},Lys³⁶]GLP-1-(7-37)-OH



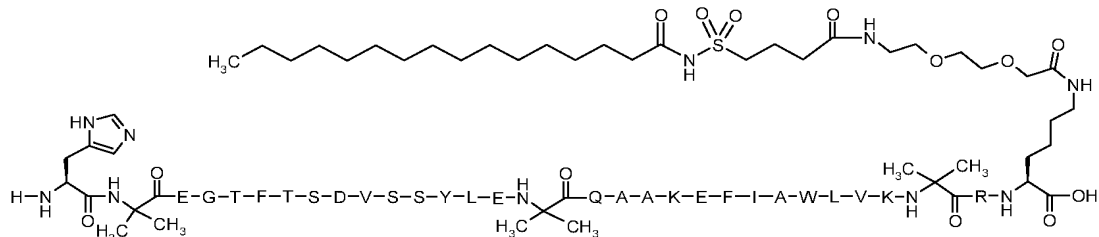
N^{ε37}-(2-(2-(2-(4-4(4,4,5,5,6,6,7,7,8,8,9,9,9-tridecafluorononanoylsulfamoyl)butyrylamino)ethoxy)ethoxy)acetyl))[Aib^{8,22,35},Lys³⁷]GLP-1-(7-37)-OH

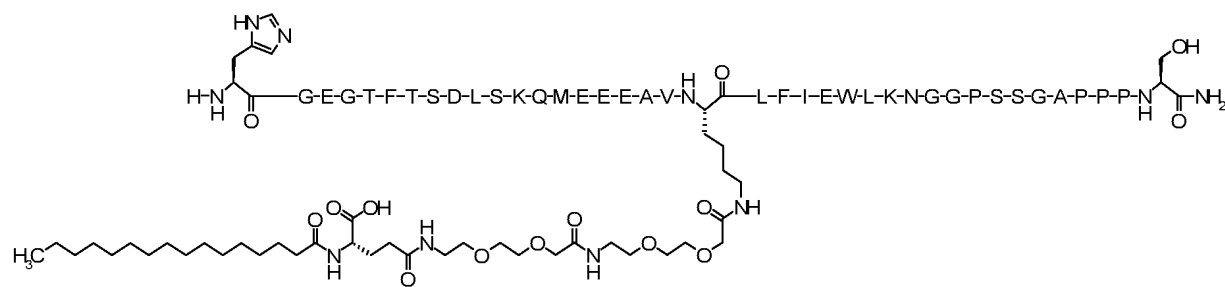


N^{ε37}-(2-(2-(2-(3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,12-Heneicosafuorododecyloxyacetyl)amino)ethoxy)ethoxy)acetyl)[Aib^{8,22,35},Lys³⁷]GLP-1-(7-37)-OH

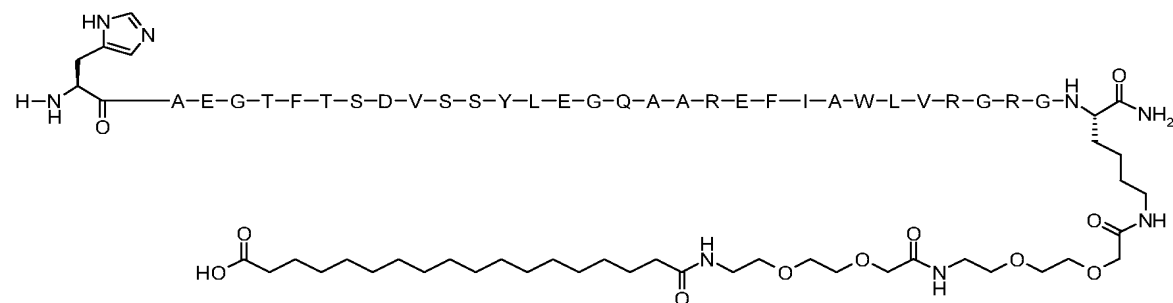


N^{ε37}-(2-(2-(2-(4-(hexadecanoylsulfamoyl)butyrylamino)ethoxy)ethoxy)acetyl)[Aib^{8,22,35},Lys³⁷]GLP-1-(7-37)-OH

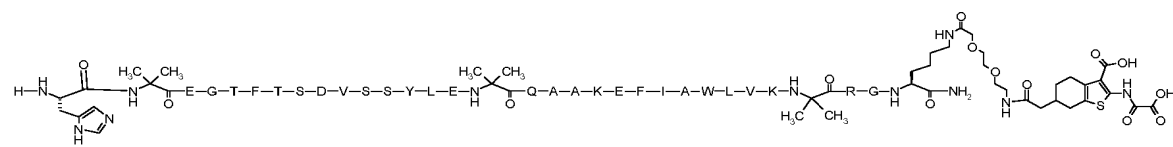




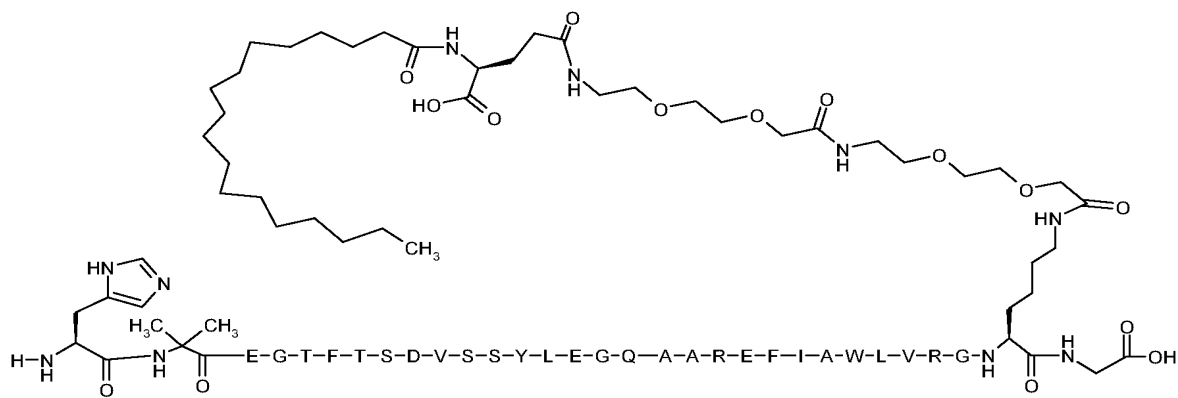
[Ala⁸, Arg^{26,34}]GLP-1(7-37)Lys((2-[2-((2-oxalylamino-3-carboxy-2,4,5,6,7-tetrahydro-benzo[b]thiophen-6-yl-acetylamino))ethoxy]ethoxyacetyl) amide



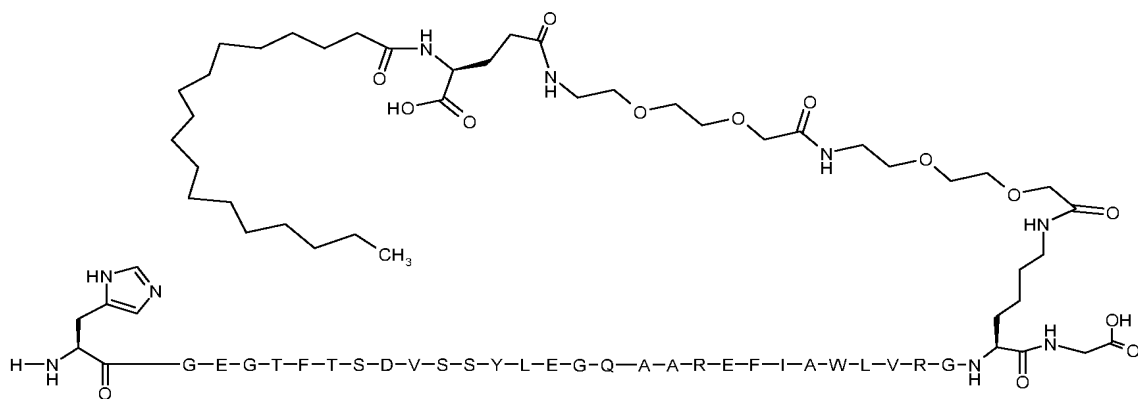
[Aib^{8,22,35}]GLP-1(7-37)Lys((2-[2-((2-oxalylamino-3-carboxy-2,4,5,6,7-tetrahydro-benzo[b]thiophen-6-yl-acetylamino))ethoxy]ethoxyacetyl) amide



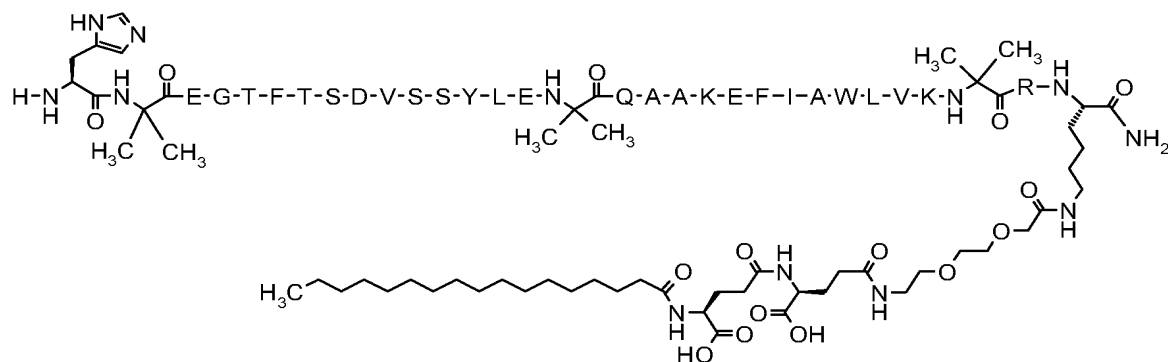
N^{ε36}-(2-(2-(2-(2-(2-(2-(4-(octadecanoylamino)-4(S)-carboxybutyrylamino)ethoxy)ethoxy)acetylamino)ethoxy)ethoxy)acetyl)-[Aib⁸,Arg^{26,34},Lys³⁶]GLP-1-(7-37)-OH



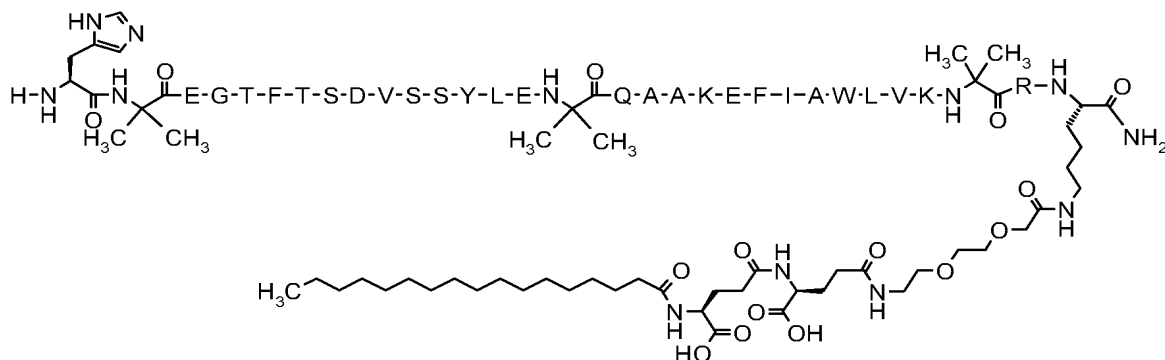
N^{ε36}-(2-(2-(2-(2-(2-(2-(4-(octadecanoylamino)-4(S)-carboxybutyrylamino)ethoxy)ethoxy)acetyl)amino)ethoxy)ethoxy)acetyl)-[Gly⁸,Arg^{26,34},Lys³⁶]GLP-1-(7-37)-OH



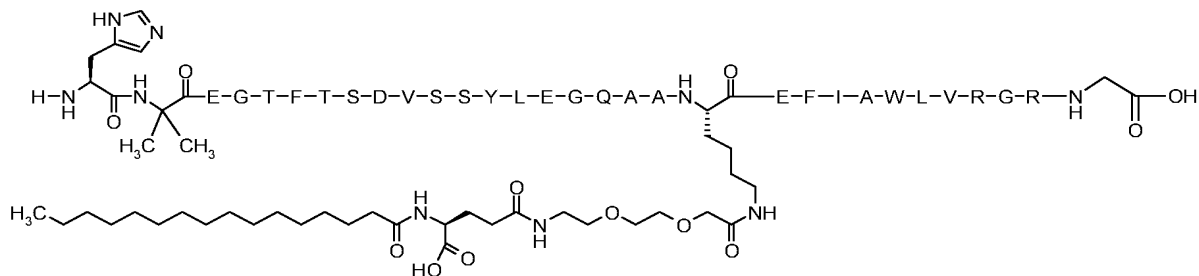
N^{ε37}-2-(2-(2-(4-(4-(Heptadecanoylamino)-4-(S)-carboxybutyrylamino)-4-(S)-carboxybutyrylamino)ethoxy)ethoxy)acetyl-[Aib^{8,22,35},Lys³⁷]GLP-1-(7-37)-NH₂



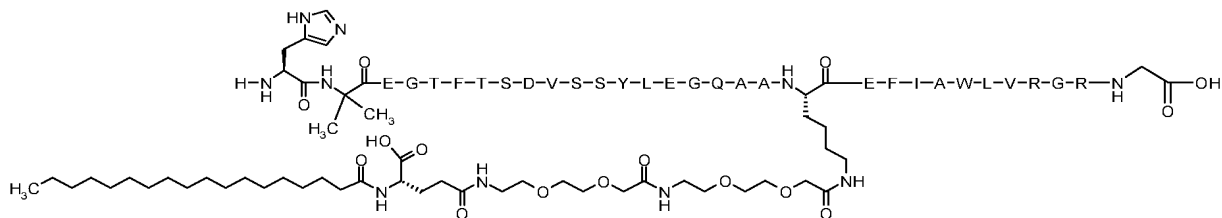
N⁶³⁷-2-(2-[2-(2-[2-(4-[4-(Heptadecanoylamino)-4-(S)-
carboxybutyrylamino]-4-(S)-carboxybutyrylamino)ethoxy]
ethoxy)acetylaminomethoxy]ethoxy)acetyl-[Aib^{8,22,35},Lys³⁷]GLP-1-(7-37)-NH₂



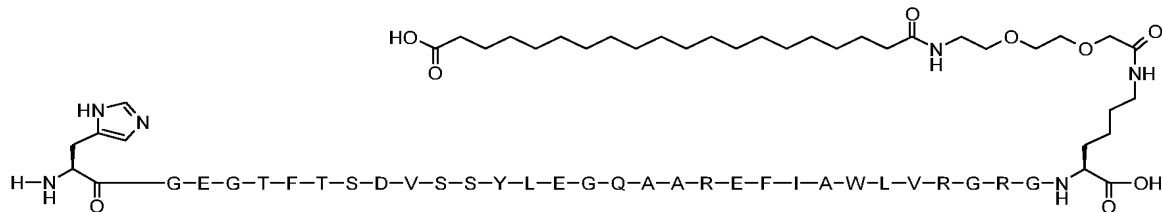
N⁶²⁶-(2-(2-(2-(4-(Hexadecanoylamino)-4(S)-carboxybutyrylamino)
ethoxy)ethoxy)acetyl)-[Aib⁸,Arg³⁴]GLP-1-(7-37)-
-OH



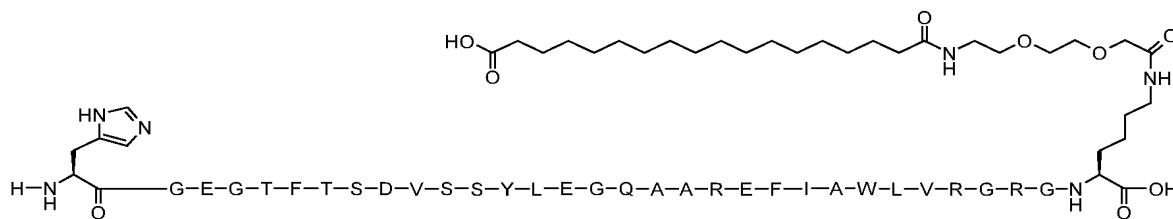
N⁶²⁶-2-(2-2-(2-(2-(2-(4-(Octadecanoylamino)-4(S)-
carboxybutyrylamino)ethoxy)ethoxy)acetylaminomethoxy)ethoxy)acetyl-
[Aib⁸, Arg³⁴]GLP-1-(7-37)-OH



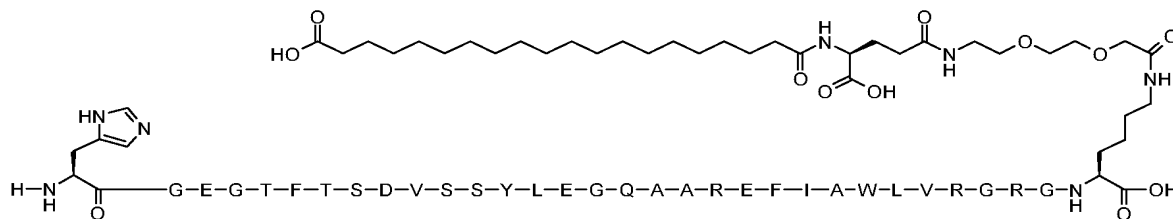
[Gly⁸,Arg^{26,34}]GLP-1(7-37)Lys(2-(2-(19-(carboxy)nonadecanoylamino)ethoxy)ethoxy)acetyl)-OH



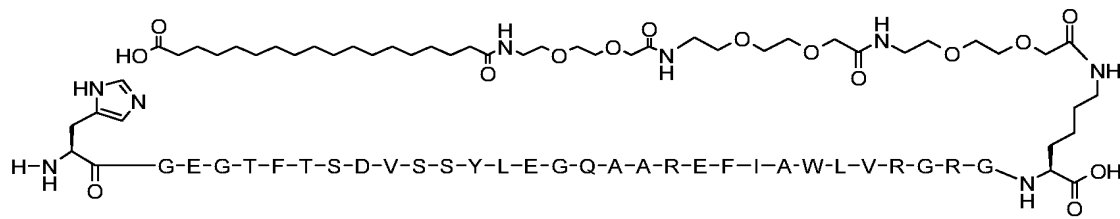
[Gly⁸, Arg^{26,34}]GLP-1(7-37)Lys((2-(2-(17-(carboxy)heptadecanoylamino)ethoxy)ethoxy)acetyl))-OH



[Gly⁸, Arg^{26,34}]GLP-1(7-37)Lys(2-(2-(2-(4-(19-(carboxy)nonadecanoylamino)-4-carboxybutyrylamino)ethoxy)ethoxy)acetyl))-OH



[Gly⁸, Arg^{26,34}]GLP-1(7-37)Lys((2-(2-(2-(2-(2-(2-(2-(2-(hexadecanoylamino)ethoxy)ethoxy)acetyl)ethoxy)ethoxy)acetyl)ethoxy)ethoxy)-acetyl))-OH



[Gly⁸, Arg^{26,34}]GLP-1 (7-37)Lys (2-(2-(2-(2-(2-(2-(octadecanoylamino)ethoxy)ethoxy)-acetyl)ethoxy)ethoxy)acetyl) NH₂

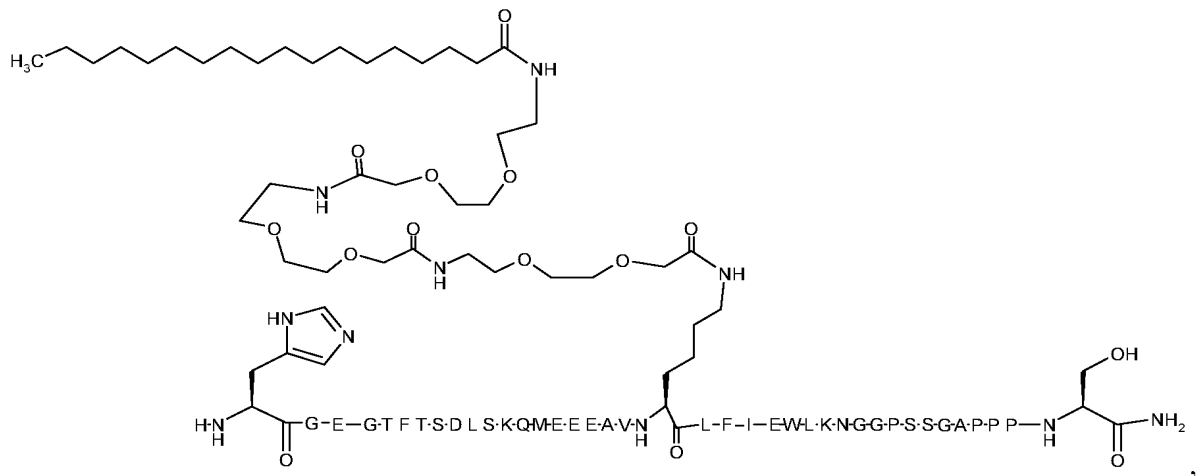


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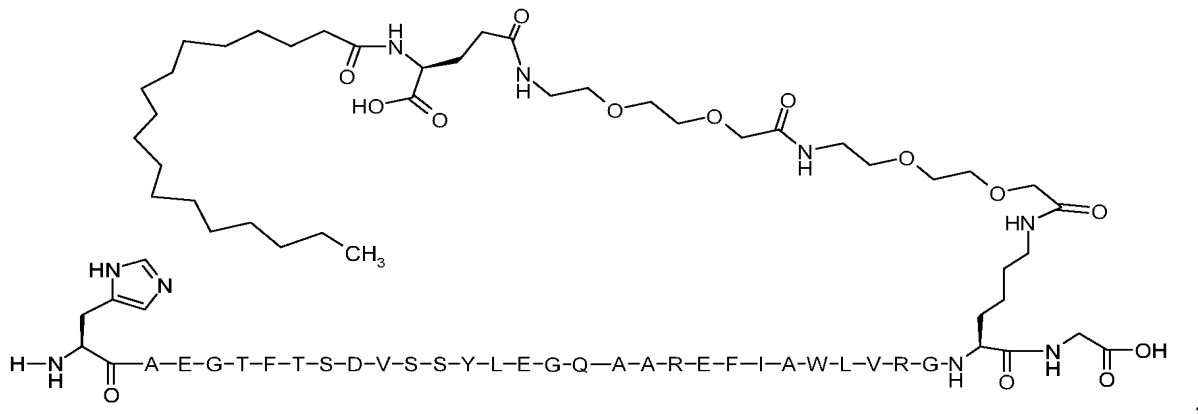
2

N-^ε³⁶-(2-(2-(2-(2-(2-(2-(17-Carboxyheptadecanoylamino)ethoxy)ethoxy)acetyl)amino)ethoxy)ethoxy)acetyl) [Arg^{26,34}, Lys³⁶] GLP-1 (7-37)

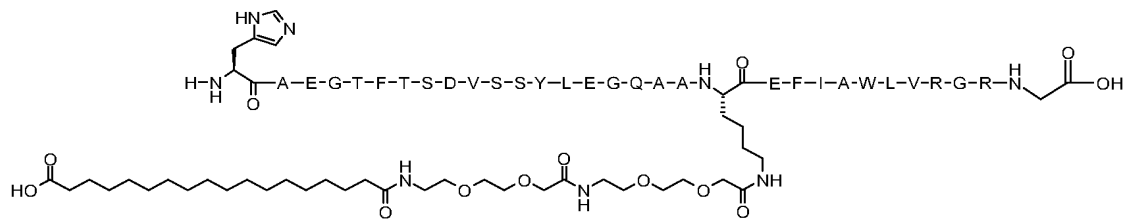




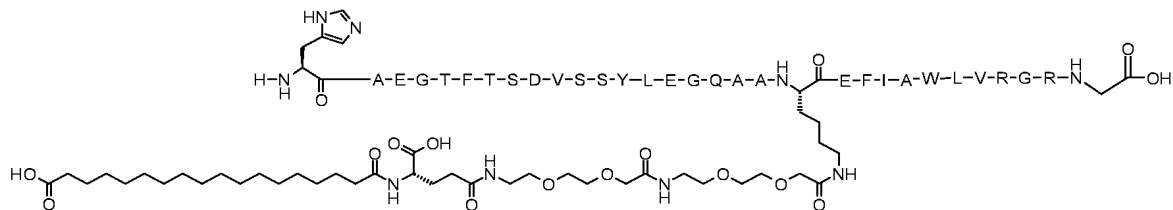
N^{ε36}-(2-(2-(2-(2-(2-(2-(4-(octadecanoylamino)-4(S)-carboxybutyrylamino)ethoxy)ethoxy)acetylamino)ethoxy)ethoxy)acetyl)-[Arg^{26,34},Lys³⁶]GLP-1-(7-37)



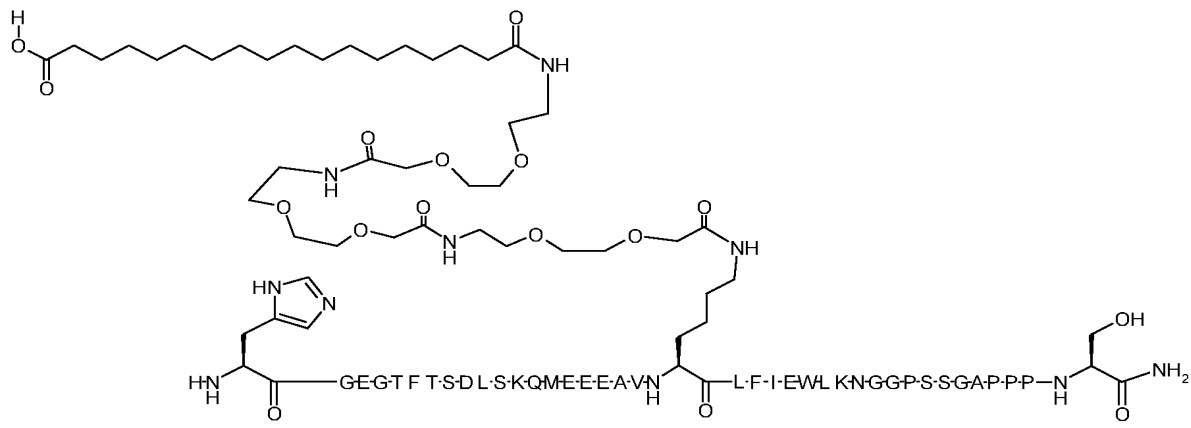
N^{ε26}-(2-[2-(2-[2-(2-[2-(17-Carboxyheptadecanoylamino)ethoxy]ethoxy)acetylamino]ethoxy)ethoxy]acetyl)-[Arg³⁴]GLP-1-(7-37)-OH



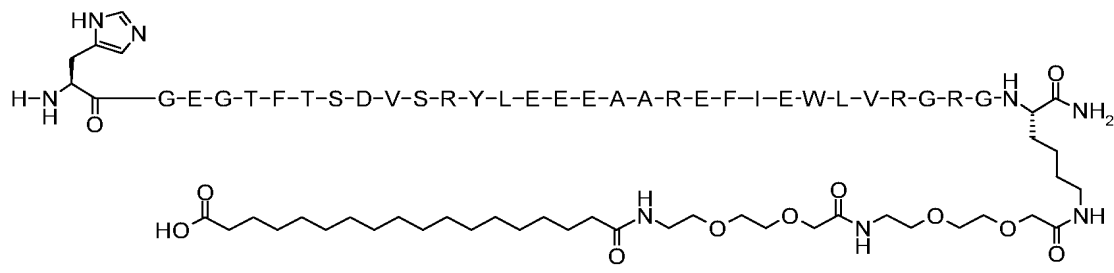
N^{ε26}-[2-(2-[2-(2-[2-(2-[4-(17-Carboxyheptadecanoylamino)-4(S)-carboxybutyrylamino]ethoxy)ethoxy]acetylamino)ethoxy]ethoxy)acetyl][Arg³⁴]GLP-1-(7-37)-OH



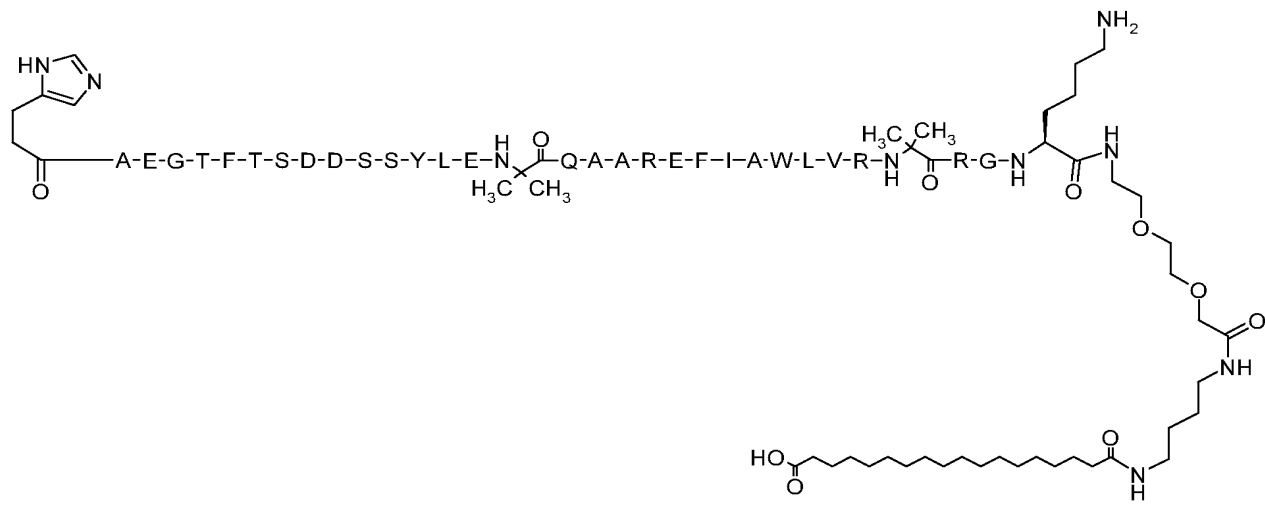
N^{ε20}-(2-(2-(2-(2-(2-(2-(2-(2-(17-Carboxyheptadecanoylamino)ethoxy)ethoxy)acetylamino)ethoxy)ethoxy)acetyl-amino)ethoxy)ethoxy)acetyl)[Lys²⁰] Exendin-4 (1-39) amide



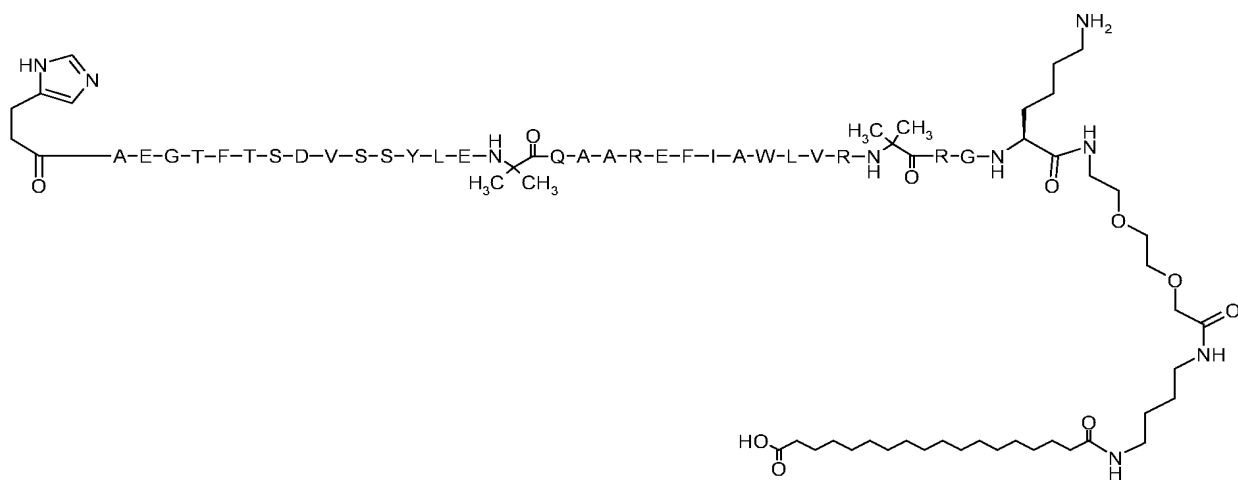
[Gly⁸, Glu^{22,23,30}, Arg^{18,26,34}]GLP1 (7-37) Lys(2-(2-(2-(2-(2-(2-(17-carboxyheptadecanoylamino)ethoxy)ethoxy)acetylamino)ethoxy))ethoxy)acetyl)-NH₂



[Imidazoly]propionic acid⁷, Asp¹⁶, Aib^{22,35}]GLP1(7-37)Lys NH((2-{[4-(17-carboxyheptadecanoylamino)butylcarbamoyl]methoxy}ethoxy)ethoxy))

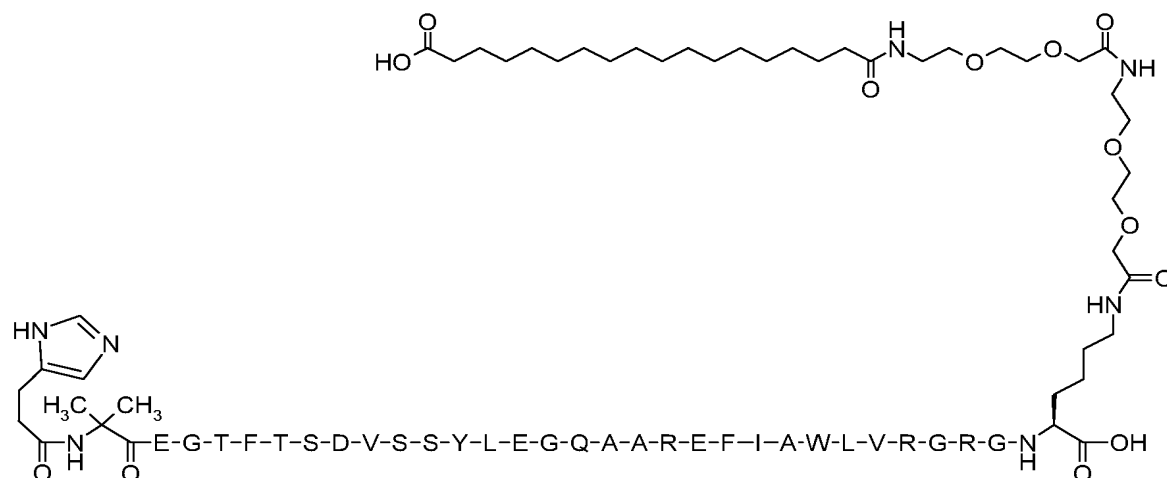


[Imidazoly]propionic acid⁷, Aib^{22,35}]GLP1(7-37)Lys NH((2-{[4-(17-carboxyheptadecanoylamino)butylcarbamoyl]methoxy}ethoxy)ethoxy))



and

[3-(5-Imidazolyl)propionyl⁷, Aib⁸, Arg^{26,34}] GLP-1 (7-37)Lys{2-(2-(2-(2-[2-(2-(17-carboxyheptanoylamino)ethoxy)ethoxy]acetylamin)ethoxy)ethoxy)acetyl)}-OH



Claim [127] 129 (Currently Amended) A compound according to claim [73] 75, wherein said therapeutic polypeptide is a glucagon-like peptide 2 (GLP-2) peptide.

Claim [128] 130 (Currently Amended) A compound according to claim [127] 129, wherein said GLP-2 peptide is a DPPIV-protected GLP-2 peptide.

Claim [129] 131 (Currently Amended) A compound according to claim [127] 129, wherein said GLP-2 peptide is Gly²-GLP-2(1-33).

Claim [130] 132 (Currently Amended) A compound according to claim [127] 129, wherein said GLP-2 peptide is Lys¹⁷Arg³⁰-GLP-2(1-33).

Claim [131] 133 (Currently Amended) A compound according to claim [73] 75, wherein said therapeutic polypeptide is human insulin or an analogue thereof.

Claim [132] 134 (Currently Amended) A compound according to claim [131] 133, wherein said therapeutic polypeptide is selected from the group consisting of Asp^{B28}-human insulin, Lys^{B28},Pro^{B29}-human insulin, Lys^{B3},Glu^{B29}-human insulin, Gly^{A21},Arg^{B31},Arg^{B32}-human insulin and des(B30) human insulin.

Claim [133] 135 (Currently Amended) A compound according to claim [73] 75, wherein said therapeutic polypeptide is human growth hormone or an analogue thereof.

Claim [134] 136 (Currently Amended) A compound according to claim [73] 75, wherein said therapeutic polypeptide is parathyroid hormone or an analogue thereof.

Claim [135] 137 (Currently Amended) A compound according to claims [73] 75, wherein said therapeutic polypeptide is human follicle stimulating hormone or an analogue thereof.

Claim [136] 138 (Currently Amended) A compound according to claim [73] 75, wherein said therapeutic polypeptide has a molar weight of less than 100 kDa.

Claim [137] 139 (Currently Amended) A compound according to claim [73] 75, wherein said therapeutic polypeptide is selected from the group consisting of a growth factor, a somatomedin, interferon, pro-urokinase, urokinase, tissue plasminogen activator (t-PA), plasminogen activator inhibitor 1, plasminogen activator inhibitor 2, von Willebrandt factor, a cytokine, a colony stimulating factor (CFS), a stem cell factor, a tumor necrosis factor, a protease inhibitor, an opioid, a hormone, a neuropeptide, and a melanocortin.

Claim [138] 140 (Currently Amended) A pharmaceutical composition comprising a compound according to claim [73] 75 and a pharmaceutically acceptable excipient.

Claim [139] 141 (Currently Amended) The pharmaceutical composition according to claim [138] 140, which is suited for parenteral administration.

Claim [140] 142 (Currently Amended) A method for treating hyperglycemia, type 2 diabetes, impaired glucose tolerance, type 1 diabetes, obesity, hypertension, syndrome X, dyslipidemia, cognitive disorders, atherosclerosis, myocardial infarction, coronary heart disease and other cardiovascular disorders, stroke, inflammatory bowel syndrome, dyspepsia or gastric ulcers, said

method comprising administering to a subject in need of such treatment an effective amount of a compound according to claim [109] 111.

Claim [141] 143 (Currently Amended) A method for delaying or preventing disease progression in type 2 diabetes in a subject, said method comprising administering to said subject an effective amount of a compound according to claim [109] 111.

Claim [142] 144 (Currently Amended) A method for decreasing food intake, decreasing β -cell apoptosis, increasing β -cell function and β -cell mass, and/or for restoring glucose sensitivity to β -cells in a subject, said method comprising administering to said subject an effective amount of a compound according to claim [109] 111.

Claim [143] 145 (Currently Amended) A method for treating small bowel syndrome, inflammatory bowel syndrome or Crohns disease, said method comprising administering to a subject in need of such treatment an effective amount of a compound according to claim [127] 129.

Claim [144] 146 (Currently Amended) A method for treating hyperglycemia, type 1 diabetes, type 2 diabetes or β -cell deficiency, said method comprising administering to a subject in need of such treatment an effective amount of a compound according to claim [131] 133.